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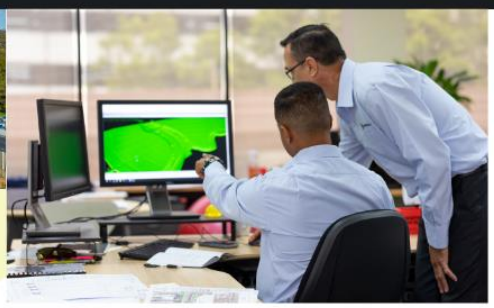

Vecco Critical Minerals Project

Traffic Impact Assessment

Client: Vecco Industrial Pty Ltd (Vecco)
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1. Introduction

1.1 Project Overview

Burchills Engineering Solutions (Burchills) has been commissioned by Vecco Industrial Pty Ltd (Vecco) to provide traffic and transport engineering advice in relation to the Vecco Critical Minerals Project located (Project) in Julia Creek, Queensland.

The Project will be comprised of a mine and associated infrastructure approximately 70km north of Julia Creek, with capabilities of delivering up to 1.9 Mtpa of Run of Mine (ROM) ore during the mining operations.

To facilitate the processing of the ore, the Project will include the construction and implementation of a mineral processing plant (MPP), a Mine Infrastructure Area (MIA), ore handling facilities, raw water supply pumping and storage including a pipeline connection to the MIA, a hybrid photovoltaic diesel power plant, as well as an on-site workers village and on-site sewerage treatment plant (STP).

The Project area will be defined by three (3) proposed Mining Lease Applications (MLA), including main Production MLA, a Transport MLA and an Infrastructure MLA. The combine three (3) MLA approximately covers 31.43 km^2 (3,536 ha).

As part of the Project, the construction and operation phases will employ Drive-In-Drive-Out (DIDO) workers from the local McKinlay Shire area as well as Fly-In-Fly-Out (FIFO) workers sourced from Queensland regional centres, likely Mount Isa, Cloncurry, Julia Creek and Townsville.

1.2 Assessment Methodology

This report has adopted the following assessment methodology to quantify the impact of the Traffic Impact Assessment (TIA), consistent with the requirements of the Department of Transport and Main Roads Guide to Traffic Impact Assessments (GTIA) 2018:

- Determine the potential scope of the impact of the Project;
- Assess existing road infrastructure and conditions;
- Determine the transport demands of the Project;
- Determine the impact the demands have on the existing infrastructure in terms of:
    - Intersection impact;
    - Link capacity impact; and
    - Other impacts including road safety.
- Determine any necessary measures required to mitigate the impact of the Project.

1.3 Report Structure

The reporting structure adopted as part of this assessment is outlined below:

Section	Description
Introduction	Introduces the TIA report
Project Description	An introduction and description of the proposed development
Assessment Methodology	Description of the scope of the assessment, and approach taken to determine the impact of the development
Existing Road Network	Description of the existing road network
Project Traffic Volumes	Description of the Project traffic demands
Project Assessment	This section describes the results of the assessment of the Project, and any potential impacts on the existing road network
Mitigation Strategies	Proposed strategies to mitigate potential impacts of the Project, including any infrastructure upgrades, or management strategies

1.4 References

The following documents have been used in the preparation of this report:

- Transport Main Roads Guide to Traffic Impact Assessment, 2018 (GTIA);
- Austroads Guide to Road Design Part 4A 2017; and
- Road Planning and Design Manual (RPDM) 2021.

1.5 Limitations

Burchills has completed this traffic report in accordance with the usual care and thoroughness of the consulting profession. To inform the Project operations conditions, workforce numbers and delivery stage durations, Burchills has largely utilised the Social Impact Management Plan produced by Vecco where confirmation of the adopted processes and methodologies have been provided by Vecco.

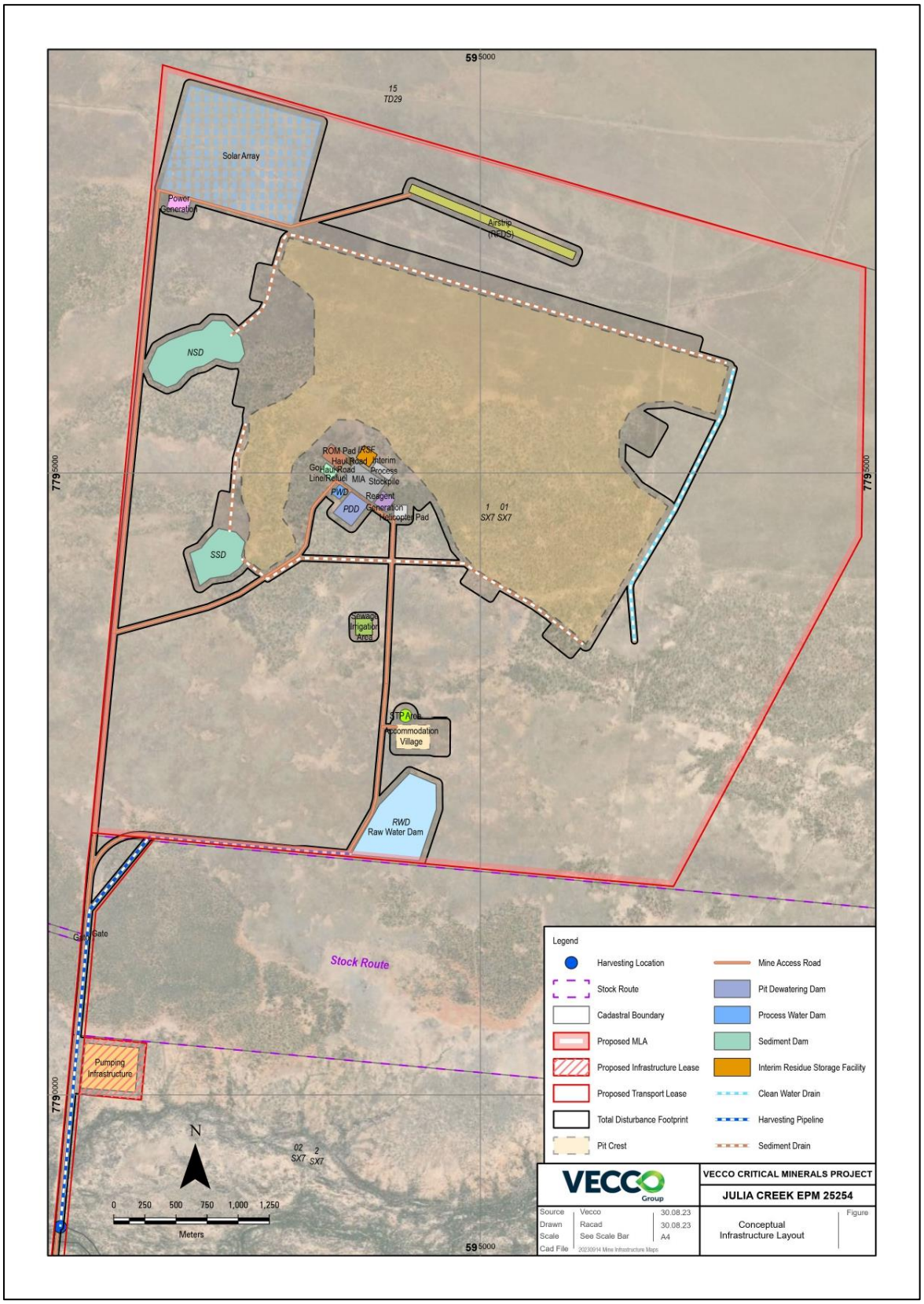
The assessment is based on accepted traffic engineering practises and standards applicable at the time of undertaking the assessment. The assessment was completed in June 2023 and is based on the conditions encountered and Project information available at the time. Burchills disclaims responsibility for any changes to Project planning or road conditions that may occur after the completion of the assessment.

2. Vecco Critical Minerals Project

2.1 Project Overview

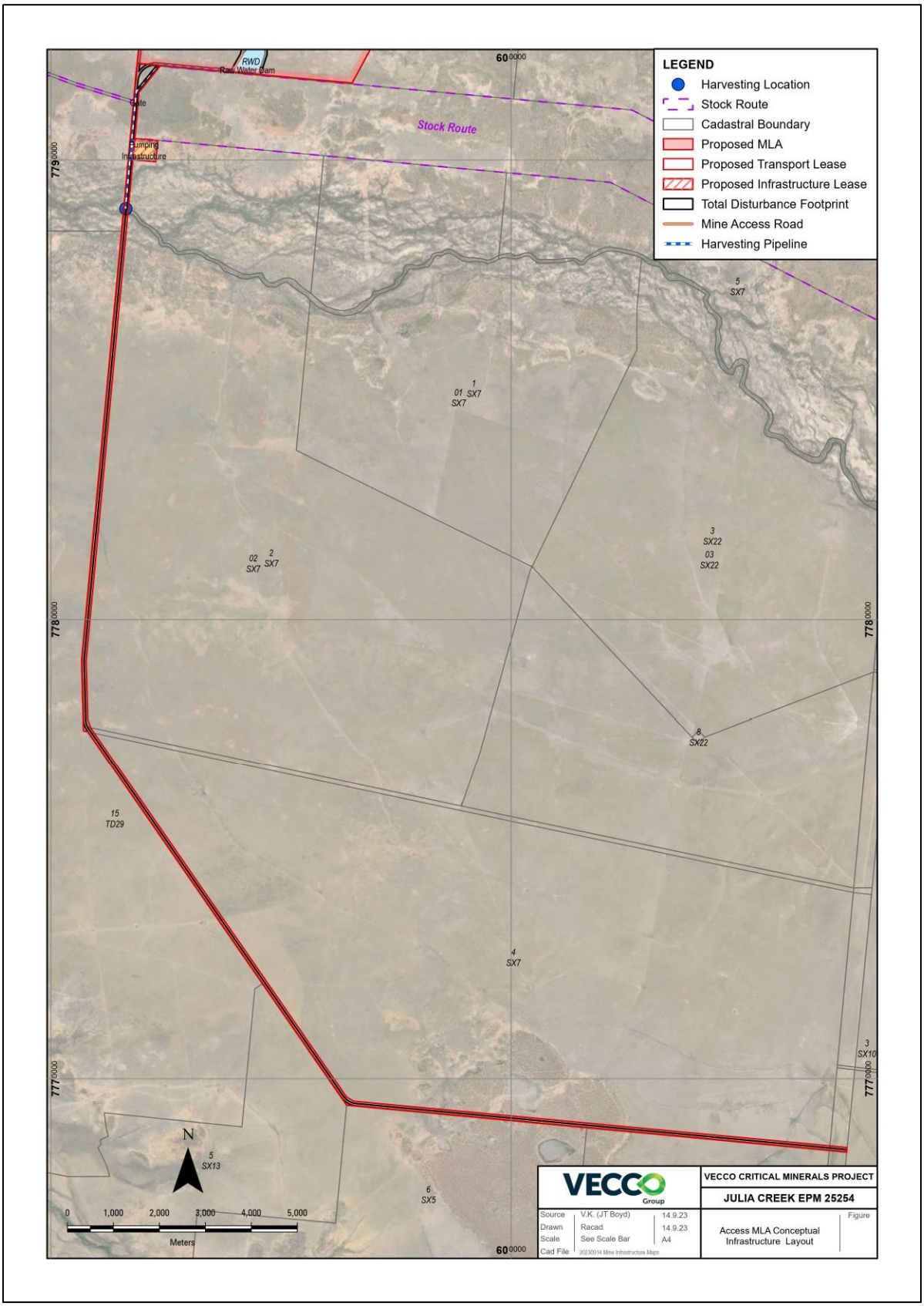
Vecco is seeking to develop the Project to mine and process the world class Vecco vanadium deposit. The Project will primarily target vanadium pentoxide (V_2O_5) and high purity alumina (HPA), with minor quantities of other rare earth elements (REEs) also produced. The life of mine (**LOM**) is expected to be approximately 36 years, including construction, operation, and rehabilitation.

A proposed conceptual Infrastructure layout and proposed Access MLA Conceptual Infrastructure layout is provided in Figure 2.1 and Figure 2.2, respectively. The Project is a proposed greenfield operation that will consist of a shallow, open-cut mine that will process up to 1.9 Mtpa ROM feed to produce up to approximately 5,500tpa V_2O_5 and 4,000tpa HPA over an operational life of approximately 26 years. Minor quantities of other REE may present opportunities for saleable bi-products of the process. Ore will be mined to an approximate depth of up to 35m. Processing will occur following on site crushing and screening of the ore. Mineral products will be packed in containers and transported by truck or rail to Townsville, for secondary processing into battery electrolyte or export from the Port of Townsville to international markets.



Source: VECCO Group

Figure 2.1 Proposed Conceptual Infrastructure Layout



Source: Vecco Group

Figure 2.2 Proposed Access MLA Conceptual Infrastructure Layout

Key components of the Project include:

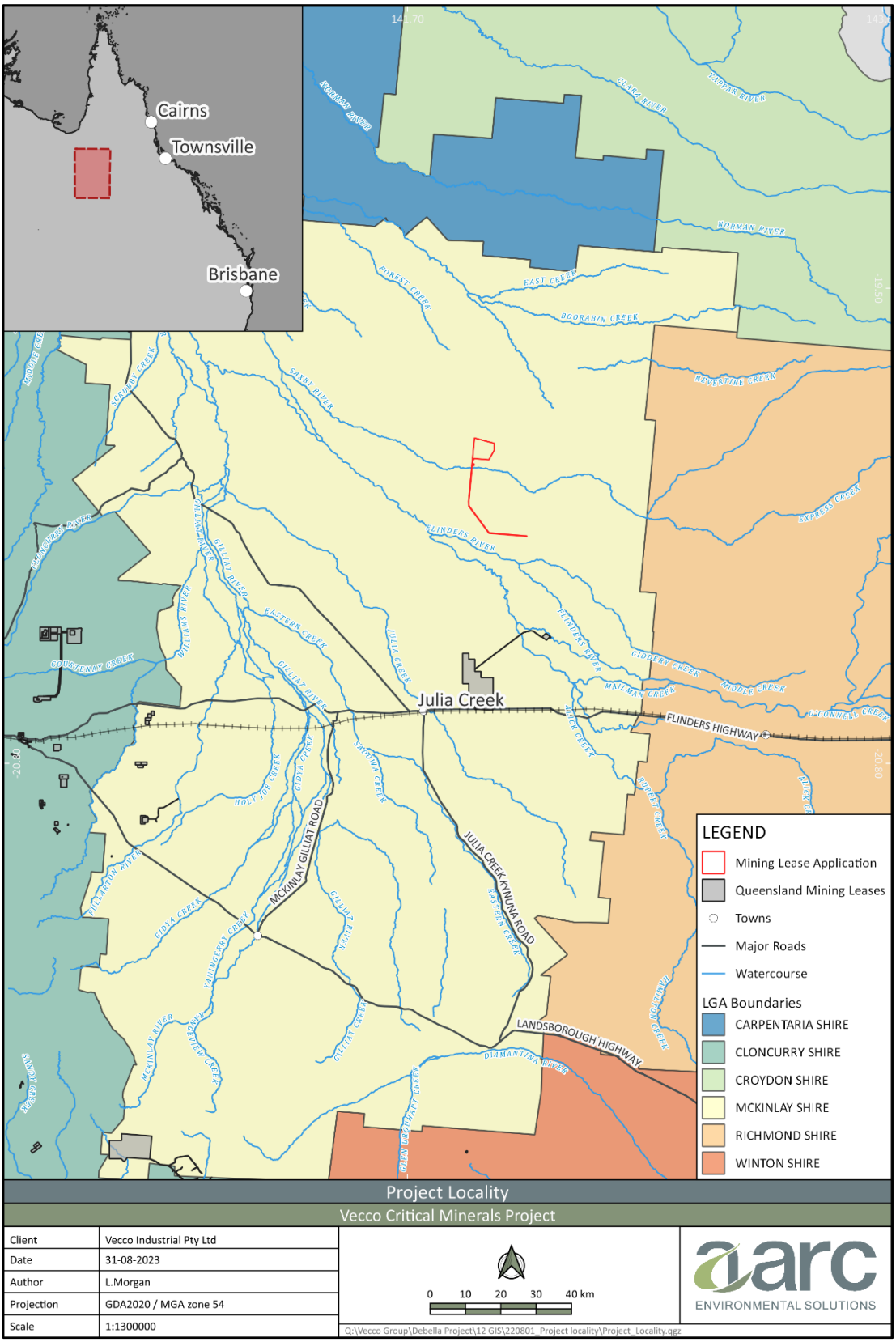
- open cut mining of up to 1.9 Mtpa ROM ore over a period of approximately 26 years;
- development of a MIA, including, administration buildings, bathhouse, crib rooms, storage warehouse, workshop, fuel storage, refuelling facilities, wash bay, laydown area, and a helipad;
- development of mine areas (open cut pits) and out-of-pit waste rock emplacements. This includes vegetation and soil stripping;
- construction and operation of a Mineral Processing Plant (MPP) and ore handling facilities adjacent to the MIA (including ROM ore and product stockpiles and rejects);
- construction of an access road from Punchbowl Road to the MIA;
- construction of an airstrip to provide access for the Royal Flying Doctors Service;
- construction of a 10 MW solar farm and associated energy storage system;
- installation of a raw water supply pumping system and pipeline to connect the MIA to the Saxby River for water harvesting;
- construction of an on-site workers village and associated facilities, including an adjacent sewage treatment plant (STP) and effluent irrigation area;
- other associated minor infrastructure, plant, equipment and activities;
- progressive establishment of soil stockpiles, laydown area and borrow pits (for road base and civil works). Material will be sourced from local quarries if required;
- open-cut mining operations using conventional surface mining equipment (excavators, front end loaders, rear dump trucks, dozers);
- strategic disposal of neutralised process residue within the backfilled mining void;
- continued exploration and resource definition drilling on the MLAs;
- progressive development of internal roads and haul roads including a low level crossing over the Saxby River (designed for minimum impact on flow events) to enable access and product haulage;
- development of water storage dams and sediment dams, and the installation of pumps, pipelines, and other water management equipment and structures including temporary levees, diversions and drains; and
- progressive rehabilitation occurring at defined milestones through the operational life. All voids will be backfilled to natural surface, ensuring all rehabilitated landforms achieve a sustainable post-mining land use on closure.

Existing regional infrastructure, facilities and services may be used to support Project activities. These include the Townsville Port, the rail networks, electricity networks, local roads and the Flinders Highway.

2.2 Location

The Project is located approximately 70 km north of Julia Creek township and approximately 515 km west of Townsville in north-west Queensland (Figure 2.3). The townships of Cloncurry and Richmond are located approximately 125 km west and 145 km east of the Project, respectively.

The land within and surrounding the Project area is designated as a ‘Rural’ zone under the McKinlay Shire Planning Scheme 2019. Existing land use of the Project area is low intensity cattle grazing.



Source: AARC Environmental Solutions

Figure 2.3 Project Location

2.3 Project Staging

The Project on-site construction and operation process will be delivered over two (2) stages commencing at the end of 2024 and will have an approximate operational life of approximately 26 years. The two (2) delivery stages are outlined below in Table 2.1.

Table 2.1 Vecco Critical Minerals Projects Stages

Delivery Stage	Stage Overview	Start year	Finish year
Stage 1	Construction Phase	End-2024	Mid-2025
Stage 2	Operation Phase	Mid-2025	2051

2.4 Project Benefits

Localised and regional benefits of the Project come in the form of increased employment, development of services, patronage of local businesses and increased property prices. These will occur from the construction phase through to the end of mine and rehabilitation phase.

The Queensland government has recognised the important role of vanadium in supporting the government's plan in making Queensland a leading producer and exporter of diversified minerals by building a new common user vanadium demonstration facility in Townsville. The facility will provide smaller Projects with the opportunity to trial extraction and production processes, reducing costs to smaller companies and support the local economy through jobs and investment opportunities (DSDILGP 2022).

Investment in renewable energy and energy storage technologies is required for the Queensland Government to achieve its renewable energy target of 70% by 2032, and 80% by 2035. To assist this, available energy storage batteries will be required to store excess energy during low demand and maximise energy reserves during peak demand. Vanadium redox flow batteries offer the industry a long term, cost effective, energy storage alternative to Lithium batteries (DSDILGP 2022). Vanadium redox flow batteries have a life of at least 20 years, can be attached to an existing energy network and can store energy generated from solar and wind energy sources (DSDILGP 2022). Vanadium redox flow batteries have a minimal environmental footprint and reduce waste (due to their long lifespan) which contributes to the circular economy (DSDILGP 2022). The Project will offer a local source of vanadium and HPA (with Vecco Group also establishing a manufacturing facility in Townsville to produce vanadium battery electrolyte) to help meet both the domestic and global renewable energy market requirements.

The Australian Government has identified the importance of growth in the exploration, manufacturing, and mining of critical minerals, including vanadium in the "2022 Critical Minerals Strategy" (DISEP 2022). Australia has the 2nd largest recoverable vanadium resource in the world and has been identified by the Australian Government as a priority critical mineral (DISEP 2022). There is an increasing global demand for vanadium in the production of industrial-sized batteries for the storage of renewable energy and the advancements of technologies such as electric cars in the renewable energy sector (DISEP 2022). The Project will support a stable supply of critical minerals, support supply chains, grow our capability in the critical mineral sector, export higher value-added products with battery electrolyte and support economic growth in regional communities.

2.5 Workforce

To determine the traffic generation associated with the Project, Burchills has assessed the proposed workforce numbers associated with the construction and operation phases of each of the delivery stages.

The anticipated workforce schedule for the construction and operation phase is outlined in Table 2.2 below. It is noted these workforce numbers specify the anticipated number of workers and operators per day during each calendar year.

Table 2.2 Vecco Critical Minerals Project Daily Workforce Number (Peak)

Year	2024 – 2025 (mid)			2025 (mid) – 2026 onwards		
Staff	Construction Stage			Operation Stage		
	Process Infrastructure	Mine Construction		Infrastructure	Mining staff	
Construction Staff	76	27	103	42	27	69
Technical Staff	28	n/a	28	10	n/a	10
Senior Staff	9	6	15	5	6	11
Total Daily Workforce			146			90

The construction workforce is divided into 2 crew which then will be rotated every eighth day. However, technical and senior staff will work 5 days on and 2 days off roster. It is also to be noted that there will be no overlap between the construction stage and the operation stage.

2.6 Workforce Accommodation

As a part of the Project, during the construction and operation phase, all workers will be accommodated in the on-site worker's village that will be located south of approximately 1.8 km south of MIA.

3. Assessment Scope

The scope of this assessment is limited to the roads used by the proposed Project traffic. The judgement of whether a road carries a significant amount of traffic is based on TMR Guidelines to Traffic Impact Assessments. These guidelines state that a road carries a significant proportion of project traffic when levels reach 5% of existing traffic volumes.

The following roads and intersections have been assessed in this document to determine if the proposed traffic exceeds the 5% trigger and be classed as a significant impact:

3.1.1 State-controlled Roads

- Flinders Highway.

3.1.2 State-controlled Intersections

- Flinders Highway / Punchbowl Road.

3.1.3 McKinlay Regional Council Roads

- Punchbowl Road; and
- Shaw Street.

3.2 Study Intersections

The study intersections considered as part of this assessment are outlined in Table 3.1 and are illustrated in Figure 3.1.

Table 3.1 Study Intersections

Intersection ID	Study Intersections
1	Flinders Highway / Punchbowl Road
2	Punchbowl Road / Shaw Road
3	Punchbowl Road / Access Road

Figure 3.1 Study Intersection

3.3 Access and Egress to Mine Site

Access and egress to the mine site will be assessed according to Austroads Guide to Road Design Part 4A.

Austroads Guide to Road Design Part 4A includes:

- Safe Intersection Sight Distance (SISD) assessment.
- Acceleration assessment, and
- Turn Warrant Assessment.

The guideline assessments ensure adequate protection is proposed for turning vehicles for the proposed project traffic. It is noted that the Safe Intersection Sight Distance (SISD) assessment is the highest measure of sight distance, where SISD compliance will result in compliance with Approach Sight Distance (ASD), Minimum Gap Sight Distance (MGSD) and Stopping Sight Distance (SSD).

3.4 Intersection Safety Criteria

3.4.1 Warrants for Turn Treatments

The Austroads warrants for turn treatments provide an indication of which turn treatments will likely provide an appropriate level of safety.

The warrants for turn treatment provide guidance on where deceleration lanes and turning lanes should be used based on traffic volumes. The warrants were developed by Arndt, Troutbeck, Handley & Slattery (2006) and referenced in the TMR Road Planning and Design Manual (RPDM). These warrants were produced by identifying the location at which the benefits of providing a higher-level treatment (the reduction in estimated crash costs) are equal to additional construction costs associated with the treatment.

The benefits and costs of a higher-level treatment were compared to the base case (minimum turn treatments) to develop the curves demonstrated in Figure 3.2. Figure 3.2 also reproduces the warrants for turn treatments for rural roads with speeds greater than or equal to 100 kilometres per hour (km/h).

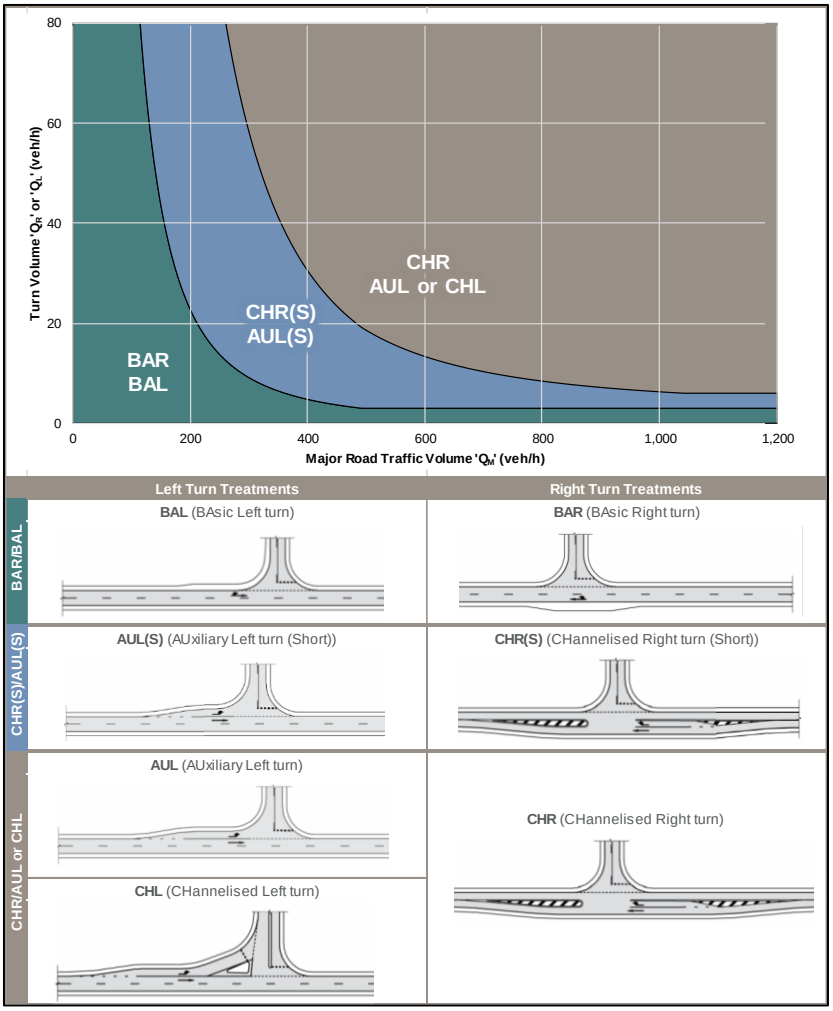


Figure 3.2 Warrants for Turn Treatment for Design Speed Greater Than or Equal to 100km/h

3.5 Link Capacity Criteria

The Road link capacity of the roads impacted by the Project traffic has been assessed according to the Guide to Traffic Impact Assessments (GTIA). Link Level of Service (LOS) relates to the operating conditions encountered by traffic. It is a qualitative measure of such factors as speed, trip time, interruptions, interference, freedom to overtake, ability to manoeuvre, safety, comfort, convenience and vehicle operating costs. TMR's definitions of LOS for uninterrupted flow are defined in terms of traffic flow as detailed in Table 3.2, in addition to indicative photographs. The performance of the assessed links was analysed including and excluding project traffic using the link LOS methodology detailed in *Austroads Guide to Traffic Engineering Practice Part 2 Roadway Capacity* (1991).

Table 3.2 identifies the level of service thresholds specified for varying K factors which represents the ratio of the design hour volume to the Annual Average Daily Traffic (AADT). It is noted that the Guide to Traffic Engineering Practice has been superseded, by the Austroads Guide to Traffic Management (2015). However, as the Guide to Traffic Engineering Practice contains the source research for contemporary standards, it has been listed here as the source.

Table 3.2 Level of Service Definitions

LOS	Level of Service Description		LOS	Level of Service Description	
A	Free flow conditions where drivers are unaffected by the presence of others in the traffic stream		D	Close to the limit of stable flow and approaching unstable flow. Drivers are severely restricted to select their speed and manoeuvre.	
B	Stable flow where drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream.		E	Traffic volumes are at or close to capacity and there is virtually no freedom to select desired speeds or to manoeuvre.	
C	Stable flow, but most drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre.		F	Forced flow. Traffic approaching the point under consideration exceeds that which can pass it. Flow breakdown occurs.	

Source: TMR's Road Planning and Design Manual (2013)

Table 3.3 Maximum AADT Thresholds for Level Terrain on Two-Lane Two-Way Rural Roads

K-factor	Level of Service				
	A	B	C	D	E
0.10	2,400	4,800	7,900	13,500	22,900
0.11	2,200	4,400	7,200	12,200	20,800
0.12	2,000	4,000	6,600	11,200	19,000
0.13	1,900	3,700	6,100	10,400	17,600
0.14	1,700	3,400	5,700	9,600	16,300
0.15	1,600	3,200	5,300	9,000	15,200

4. Existing Road Network

4.1 Road Links

Burchills undertook an inspection of the site and the surrounding road network on 10th May 2023. Tasks conducted on these inspections include the following:

- Visual review of general road condition, including pavement type and noted pavement deficiencies;
- Visual review of road formation, including carriageway configuration;
- Visual review of road alignment, including bends and crests which could pose safety risks; and
- Visual review of existing roadside infrastructure, including warning signage.

To supplement the site visit information, Burchills commissioned 12-hour traffic counts on key roads. Table 4.1 summarises the existing conditions for key roads along with the vehicles per day (vpd).

Table 4.1 Summarises the existing road conditions for key roads within the study area.

Road	Road Condition	Formation	Average Width	Speed Limit	AADT (2023) Based on Traffic counts	HV%
Flinders Highway	Sealed	2-lane 2-way	7.2 m	100 km/h	377 vpd	28.41%
Punchbowl Road	Sealed	1-lane 2-way	4.2 m	100 km/h	57 vpd	26.37%
Shaw Road	Sealed	2-lane 2-way	5.1 m	50 km/h	71 vpd	16.97%

Detailed characteristics of key roads in the vicinity of the subject site is provided in Table 4.2.

Table 4.2 Detailed characteristics of key roads.

Road	Characteristics	Photo
Flinders Highway	Flinders Highway stretches from Roseneath, through to Cloncurry, crossing through the town of Charters Towers City. The road is generally a two-lane two-way sealed formation, with typically flat topography, and gradual bends. The speed limit is 100km/h along the majority of its length, with reductions in speed limits to 60km/h through towns. The sealed width is typically 7.6 m, with 500mm shoulders provided along the majority of its length.	
Punchbowl Road South of Shaw Street)	Punchbowl Road provides an alternative connection to Julia Creek Town. This section of the road is a two-lane two-way sealed formation. The default speed limit is 100km/h, however, this section is only 480 m in length. The sealed width is typically 5.3 m, with gravel shoulders.	

Punchbowl Road (north of Shaw Street)	Punchbowl Road connects outback locality Malpas-Trenton with Julia Creek Town in Shire of McKinlay. The 60 km section of the road (north of Shaw Street) is a rural single lane two-way sealed formation, the rest of the section is a dirt road. The default speed limit on the majority of the section is 100km/h with speed reduced to 60km/h in flood crossing areas. The sealed width is typically 4.2 m, with gravel shoulders.	
Shaw Street	Shaw Street is a local road of approximately 2.1 km in length. This road provides an alternative access to Julia Creek Town via Punchbowl Road. The road is generally a two-lane two-way sealed formation, with typically flat topography, and gradual bends. The default speed limit is 50km/h along the majority of its length. Section of Shaw Street leading to Julia Creek Town has sealed width of typically 5m, with gravel shoulders.	

4.2 Punchbowl Road – Additional Comments

The 65 km section of Punchbowl Road (north of Shaw Street) has multiple single-width cattle grids, vertical and horizontal crests, floodways (some on bends), single-width floodway bridges along with damaged road surface in some sections of the road.

Approximately 60km from the Shaw Street intersection, Punchbowl Road turns into a dirt road from a gravel surface.

4.3 Intersections

4.3.1 Flinders Highway / Punchbowl Road Intersection

The Flinders Highway / Punchbowl Road intersection is a three-leg sealed priority-controlled intersection with a speed limit of 100 km/h across the major road (Flinders Highway). The intersection

has a T-intersection arrangement with unsealed shoulders (0.5m wide) that are provided on both sides of the carriageway of Flinders Highway.

The Flinders Highway / Punchbowl Road intersection will be utilised to provide access to the wider road network to and from the Project area for staff and operators during both the construction and operation phases. The intersection also provides access to Julia Creek airport via Julia Creek township. Figure 4.1 below provides an aerial view of the intersection.

Figure 4.1 Flinders Highway / Punchbowl Road Aerial View

Lane widths in the vicinity of the intersection are summarised in Table 4.3 below.

Table 4.3 Flinders Highway / Punchbowl Road Intersection

Lane Description	Lane Width
Flinders Lane (eastbound)	3.6 m
Flinders Lane (westbound)	3.6 m
Punchbowl Road (northbound)	2.65 m
Punchbowl Road (southbound)	2.65 m

The Safe Intersection Sight Distance (SISD) results for Flinders Highway / Punchbowl Road intersection were determined from site inspections. A summary of the achievable sight distances at the intersection is provided in Table 4.4.

Table 4.4 Flinders Highway / Punchbowl Road Safe Intersection Sight Distance Assessment

Direction	SISD	SISD Requirement (Posted Speed 100 Km/h)	Site Photo
Left out of Punchbowl Road	700 m+	285 m	
Right out of Punchbowl Road	381 m	285 m	

Table 4.5 summarises a review of key intersection characteristics relevant to the Flinders Highway / Punchbowl Road intersection.

Table 4.5 Flinders Highway / Punchbowl Street Intersection Findings

Description	Existing Condition
Intersection Clear Zones	Adequate
Signage	Adequate (an existing sign reduces the sightline for vehicles making a right turn onto the Flinders Highway)
Line Marking	Adequate
Pavement	Adequate

4.4 Punchbowl Road / Shaw Street Intersection

The Punchbowl Road / Shaw Street intersection is a three-leg priority-controlled intersection with a speed limit of 100km/h. Punchbowl Road travels in a northeast direction (north of Shaw Street) with unsealed shoulders that lead to the project site (approximately 65km to the north of the intersection). Shaw Street provides secondary access to Julia Creek Township. Figure 4.2 below provides an aerial view of the intersection.

Figure 4.2 Punchbowl Road / Shaw Street Aerial View

Key lane widths in the vicinity of the intersection are listed in Table 4.6.

Table 4.6 Punchbowl Road / Shaw Street Intersection

Lane Description	Lane Width
Punchbowl Road (north of Shaw Street)	4.20 m
Punchbowl Road (eastbound)	2.65 m
Punchbowl Road (westbound)	2.65 m
Shaw Street (eastbound)	2.50 m
Shaw Street (westbound)	2.50 m

The Safe Intersection Sight Distance (SISD) results for Punchbowl Road / Shaw Street intersection were determined from site inspections that took place on 10th May 2023 and are outlined in Table 4.7.

Table 4.7 Punchbowl Road / Shaw Street Safe Intersection Sight Distance Assessment

Direction	SISD	SISD Requirement (Posted Speed 100 Km/h)	Site Photo
Left out of Punchbowl Road (towards Flinders Highway)	236 m	285 m	

Direction	SISD	SISD Requirement (Posted Speed 100 Km/h)	Site Photo
Right out of Punchbowl Road (towards Shaw Street)	288 m	285 m	

While it is acknowledged that the sight distance at the intersection does not accord with the SISD requirements outlined in Austroads, it is anticipated that sight distances could be improved to accord with Austroads by reducing the height of the landscaping within the verge on Punchbowl Road.

Table 4.8 summarises a review of key intersection characteristics for the relevant to the Punchbowl Road / Shaw Street intersection.

Table 4.8 Punchbowl Road / Shaw Street Intersection Findings

Description	Existing Condition
Intersection Clear Zones	Adequate (overgrown vegetation)
Signages	Adequate
Line Marking	Adequate
Pavement	Adequate

4.5 Crash History for Intersections and Links

Crash data over the previous five years (May 2017 to May 2022) was obtained from TMR in order to determine any incident trends in the vicinity of the haul routes. However, no crashes were recorded in the vicinity of the intersection for the last ten years.

5. Traffic Generation

5.1 Traffic Count Data

To understand the existing traffic conditions at the study intersections, peak hour traffic surveys were undertaken by Austraffic between 6:00 AM to 6:00 PM on Tuesday 9th May 2023 at the following intersections:

- Flinders Highway / Punchbowl Road; and
- Punchbowl Road / Shaw Street.

A review of the survey indicated that the AM and PM period for study intersections ranged between the time shown in Table 5.1 below:

Table 5.1 Peak AM and PM Period

Peak Hour	Flinders Highway / Punchbowl Road	Punchbowl Road / Shaw Street
AM Peak	10:30 AM – 11:30 AM	6:00 AM – 7:00 AM
PM Peak	4:15 PM – 5:15 PM	12:15 PM – 1:15 PM

To ensure a conservative assessment, Burchills has assessed both intersections based on the isolated AM and PM periods for each intersection instead of the AM and PM peak periods of the overall network.

5.2 Background Traffic Volumes

Based on the traffic survey data, the AM and PM peak period traffic volumes at each of the study intersections are illustrated in Figure 5.1 below.

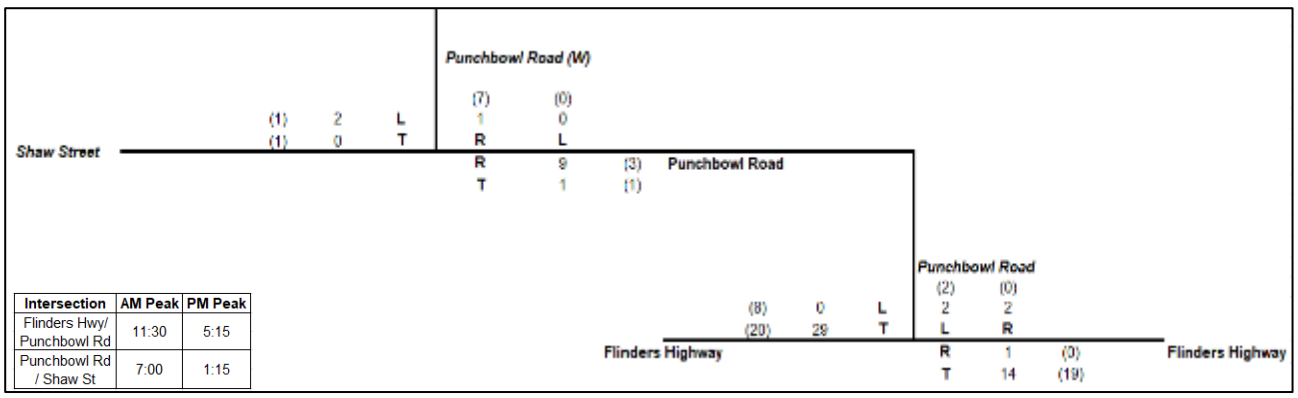


Figure 5.1 Flinders Highway / Punchbowl Road Background Traffic Volume

5.3 Traffic Growth

TMR's annual segment report for the Flinders Highway has been referenced to indicate traffic growth along the study network. A review of the report indicated TMR survey sites are within close proximity to the study intersection, as outlined below:

- Flinders Highway TMR Site 100178; and
- Flinders Highway TMR Site 100019.

A review of the AADT over the last ten (10) years of each TMR site was assessed. The TMR site 100178 doesn't have a record of any AADT data before 2018 and the latest AADT data (2021) shows a growth rate of 6.79% compared to last year (2020). The TMR site 100019 shows a growth rate of 0.41% for the last 10 years.

Based on the slow-increasing traffic volumes over the last 10 years, a linear growth rate of 1% p.a. has been adopted for assessment purposes. The growth rate adopted is considered a conservative approach for the surrounding external road network given the rural nature of the Project.

5.4 Traffic Generation

5.4.1 Workforce Numbers

To determine the traffic generation associated with the Project, Burchills has assessed the supplied workforce numbers associated with the construction and operation phases of each of the delivery stages.

The anticipated workforce schedule for the construction and operation phase is reproduced in Table 5.2 below.

Table 5.2 Vecco Critical Minerals Project Daily Workforce Number (Peak)

Year	2024 – 2025 (mid)			2025 (mid) – 2026 onwards		
Staff	Construction Stage			Operation Stage		
	Process Infrastructure	Mine Construction	Total	Infrastructure	Mining staff	Total
Construction Staff	76	27	103	42	27	69
Technical Staff	28	n/a	28	10	n/a	10
Senior Staff	9	6	15	5	6	11
Total Daily Workforce			146			90

As previously noted, the construction workforce is divided into two crews which then will be rotated every 8th day. Technical and senior staff will work 5 days on and 2 days off roster. It is also to be noted that there will be no overlap between the construction stage and the operation stage.

As previously noted, all workers will be accommodated in the on-site worker's village.

5.5 Workforce Transportation Modes Split

It is anticipated that on the day of shift change, travel to and from the mine area will occur via shuttle bus services as well as private vehicle transportation for both construction and operation phases.

The workforce transportation mode splits are outlined below for both the construction and operation phases:

- 75% of the workforce travelling to and from the mine area via private vehicles (Drive-In Drive-Out) Carpooling with other staff. The majority of the workforce travelling via light vehicles are expected to travel from Charters Towers or Townsville and the rest from Mount Isa;
- 20% of the workforce travelling to and from the mine area via shuttle bus service (Fly-In Fly-Out) from Julia Creek Airport; and
- 5% of the workforce is expected to be local and carpool with other workers in private vehicles (i.e., local trips).

Therefore, the workforce transportation mode split for the construction and operation workforce in the years 2024 and 2025 are outlined in Table 5.3 below.

Table 5.3 Vecco Critical Minerals Project Workforce Transportation Distributions per shift-change Day for Years 2024 and 2025

Workforce Transportation Mode	Construction Stage Year 2024 (End)	Operation Stage Year 2025 (Mid)
	Daily workforce	Daily workforce
Fly-In Fly-Out via buses	29	18
Drive-In Drive-Out via private vehicles	110	68
Local trips via private vehicles (carpool)	7	4
Total	**146**	**90**

5.6 Workforce Vehicle Trips

Burchills has been advised that the shuttle bus service in the construction phase will have a capacity of 40 people per bus, while the carpooling occupancy ratio of 1.2 people per car has been adopted.

Therefore, the number of vehicle trips likely to be generated by the development is summarised in Table 5.4.

Table 5.4 Vecco Critical Minerals Project Trips

Workforce Trips	Construction Stage Year 2024 (End)	Operation Stage Year 2025 (Mid)
	Shift-change day	Shift change day
Shuttle Buses (40/Bus)	1	1
Private vehicles (1.2/Car)	97	60

5.7 Workforce Rosters

Burchills has been advised that the construction and operation phases will operate 365 days per year, where there will be two (2) workforce rosters per day, subject to suitable weather conditions.

The two (2) daily workforce rosters will run for a 12-hour shift per roster, for 8 days. On the 8th day two new crews will arrive to replace the previous crews (shift-change day) hence the workforce trips in Table 5.5 represent the trips associated with the shift-change day only.

Burchills has been advised that two shift change sequences will occur on shift change day (day 8) with AM crews anticipated to be replaced during the AM shift change period and the PM crews replaced during the PM shift change period.

Furthermore, it has been assumed that the inbound shuttle buses and private vehicles arriving at the mine areas for the one-week roster travel in the same hour period that the outbound shuttle buses and private vehicles for the previous shift are travelling from the mine area (50-50 split).

As seen in section 6.1, the number of staff is higher in the construction stage with no overlap when compared with the operation stage. Therefore, the inbound and outbound trips for the AM and PM peak hours are expected to reach the peak during the construction stage in the year 2024 and will reduce in the operation stage. Table 5.5 shows the inbound and outbound trips for the construction stage and operation stage.

Table 5.5 Vecco Critical Minerals Project Inbound and Outbound Trips (Construction Stage)

Workforce Trips	Construction Stage (Year 2024)		Operation Stage (Year 2025)	
	AM In / Out	PM In / Out	AM In / Out	PM In / Out
Shuttle Buses	1 vph*	1 vph	1 vph	1 vph
Private vehicles	49 vph	49 vph	30 vph	30 vph
Total	50 vph	50 vph	31 vph	31 vph

*vph- vehicles per hour

The network flow diagrams outlining these AM and PM inbound/outbound movements have been provided at Appendix D.

5.8 Heavy Vehicle Movements

In addition to the workforce trip generation for the Project, Burchills has also assessed the heavy vehicle movements for both the construction and operation phases. Burchills has been advised of the following heavy vehicle movements per day across construction and operational phases:

- Construction Stage: 6 heavy vehicle movements per day (including loaded and unloaded trips); and
- Operation Stage: 25 heavy vehicle movements per day (including loaded and unloaded trips).

The above vehicle movements per day equates to 1 heavy vehicle movement each for both peaks hour during construction stage and 2 heavy vehicle movements during the operation stage.

5.9 Directional Trip Distribution

For robust traffic assessment, the directional distribution has been estimated based on the worst-case scenario. A split of 50% In and 50% Out is used for both AM and PM peak trip distribution.

5.10 Traffic Distribution

The surrounding road network and attractors have been analysed to determine the external distributions for the mining traffic.

It is anticipated that the majority of private vehicles trips will originate for the east (i.e. Hughenden, Charters Towers, Richmond etc), while a smaller proportion will originate from the west (i.e. Julia Creek, Cloncurry and Mount Isa). As such, a 70% east / 30% west split has been adopted for private vehicle trips.

It is expected that 90% of heavy vehicles used for deliveries proposed during the construction stage will be travelling to and from Charters Towers or Townsville. However, in the operation stage, 100% of heavy vehicles transport the mined product as well as deliveries will be travelling to and from Charters Towers or Townsville.

The traffic split for light vehicles is expected to remain the same during both stages.

For the purpose of this assessment, the external distribution of the Project is summarised in Table 5.6 below.

Table 5.6 External Traffic Distribution

Transportation Mode	Construction Stage Year 2024 (End)		Operation Stage Year 2025 (Mid)	
	Flinders Hwy West	Flinders Hwy East	Flinders Hwy West	Flinders Hwy East
Light vehicles	30%	70%	30%	70%
Heavy vehicles	10%	90%	0%	100%

6. Vecco Critical Minerals Project Traffic Assessment

6.1 Assessment Scenarios

For the purpose of the traffic assessment, Burchills has assessed the year of construction as the traffic generated during construction represents the worst-case design scenario from a traffic generation perspective. The assessment scenario is shown in Table 6.1 below.

Table 6.1 Assessment Scenarios

Stage	Assessment Year
Construction Stage	2025 *(Peak Stage for the total workforce)*

The inbound and outbound trips for the AM and PM peak hour periods for the assessment years are outlined in Table 6.2 below. It is important to note that the volumes below will occur on shift change-over days only and do not represent typical AM and PM traffic generation characteristic for the site as typical volumes will be significantly lower.

Table 6.2 Vecco Critical Minerals Mining Project Inbound and Outbound Trip Year 2025

Trips (Inbound & Outbound)	**Construction Stage (Start) (Year 2024 - End)**		**Operation Stage (Year 2025 - Mid)**	
	AM	**PM**	**AM**	**PM**
Shuttle Buses	1 vph	1 vph	1 vph	1 vph
Private vehicles	49 vph	49 vph	30 vph	30 vph
Total	**50 vph**	**50 vph**	**31 vph**	**31 vph**
Heavy Vehicle Trips				
HV (Total)	**1 vph**	**1 vph**	**2 vph**	**2 vph**

6.2 SIDRA Assessment

6.2.1 Flinders Highway and Punchbowl Road

The existing intersection configuration and the adopted SIDRA layout is illustrated in Figure 6.1 below:

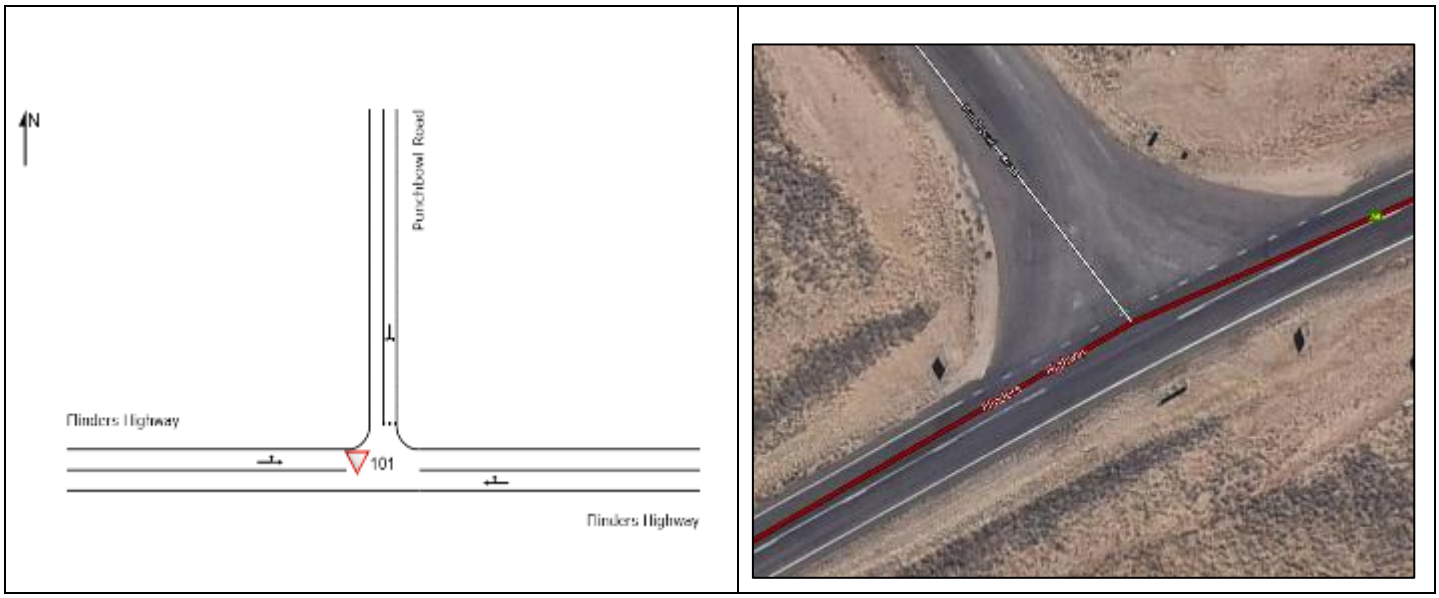


Figure 6.1 SIDRA Layout – Flinders Highway / Punchbowl Road

The results of the SIDRA assessment are summarised in Table 6.3. The SIDRA layouts and detailed results are included in Appendix C.

Table 6.3 SIDRA Results - Flinders Highway / Punchbowl Road

Scenarios	AM Peak Period			PM Peak Period		
	DOS	Critical Mvmt Delay	95th %ile Queue	DOS	Critical Mvmt Delay	95th %ile Queue
2025 BG	0.02	0.7 sec	0.2 m	0.02	1.3 sec	0.1 m
2025 BG + DEV	0.04	4.0 sec	1.2 m	0.04	4.1 sec	1.1 m

As shown in Table 6.3, Flinders Highway / Punchbowl Road intersection performs within the acceptable thresholds (DOS <0.80 and delay <42 seconds) in all scenarios.

As such, Flinders Highway / Punchbowl Road intersection is anticipated to operate satisfactorily following the construction and operation of the development.

6.2.2 Punchbowl Road and Shaw Street

The existing intersection configuration and the adopted SIDRA layout is illustrated in Figure 6.2.

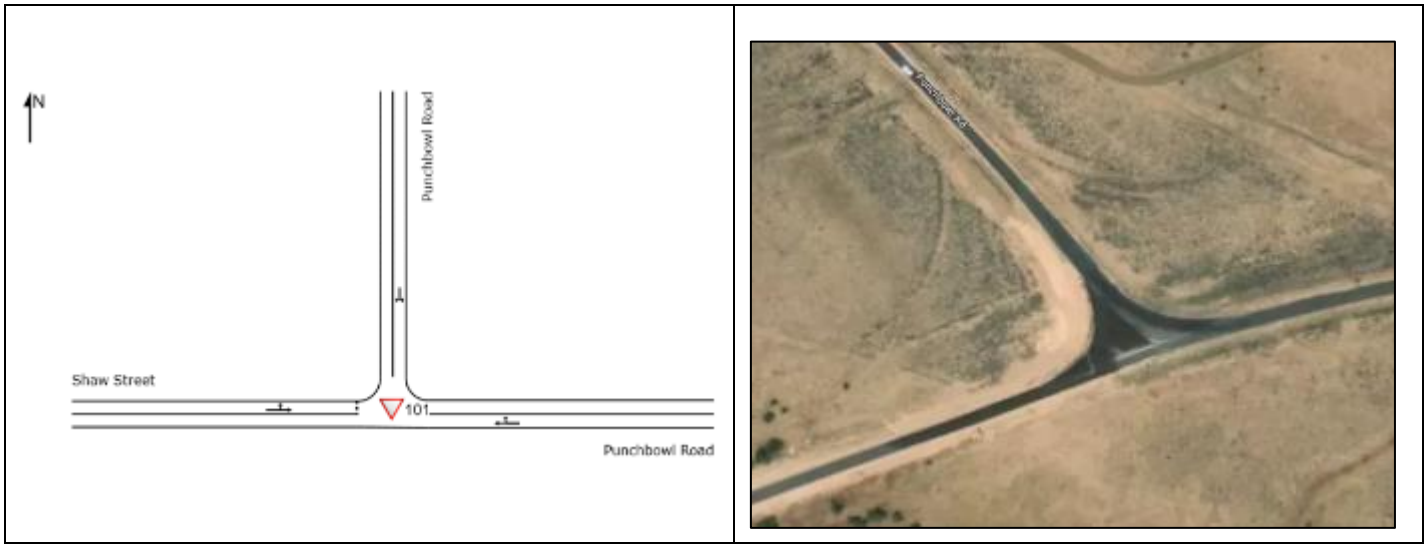


Figure 6.2 SIDRA Layout – Punchbowl Road / Shaw Street

The results of the SIDRA assessment are summarised in Table 6.4. The SIDRA layouts and detailed results are included in Appendix C.

Table 6.4 SIDRA Results - Intersection: Punchbowl Road / Shaw Street

Scenarios	AM Peak Period			PM Peak Period		
	DOS	Critical Mvmt Delay	95th %ile Queue	DOS	Critical Mvmt Delay	95th %ile Queue
2025 BG	0.01	5.6 sec	0.3 m	0.01	5.3 sec	0.2 m
2025 BG + DEV	0.04	5.6 sec	1.3 m	0.04	5.6 sec	1.0 m

As shown in Table 6.4 Punchbowl Road / Shaw Street intersection performs within the acceptable thresholds (DOS <0.80 and delay <42 seconds) in all scenarios.

As such, Punchbowl Road / Shaw Street Access intersection is anticipated to operate satisfactorily following the construction and operation of the development.

6.2.3 Punchbowl Road and Site Access Road

The intersection is proposed to be a three-way, priority-controlled arrangement. The SIDRA assessed layout is illustrated in Figure 6.3.

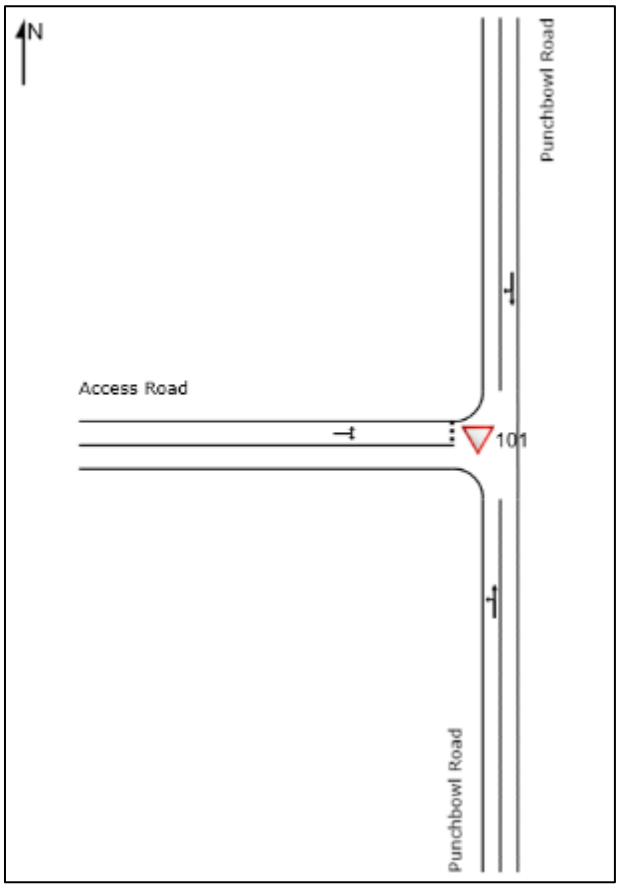


Figure 6.3 SIDRA Layout – Intersection: Punchbowl Road / Site Access

The results of the SIDRA assessment are summarised in Table 6.5. The SIDRA layouts and detailed results are included in Appendix C.

Table 6.5 SIDRA Results - Intersection: Punchbowl Road / Site Access

Scenarios	AM Peak Period			PM Peak Period		
	DOS	Critical Mvmt Delay	95th %ile Queue	DOS	Critical Mvmt Delay	95th %ile Queue
2025 BG + DEV	0.043	5.0 sec	1.0 m	0.043	5.1 sec	1.0 m

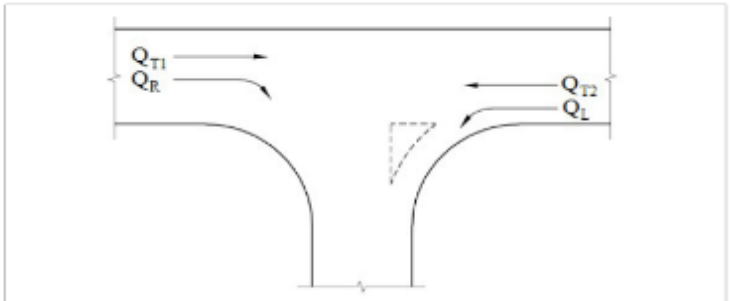
As shown in Table 6.5, the Punchbowl Road / Site Access intersection performs within the acceptable thresholds (DOS <0.80 and delay <42 seconds) in all scenarios.

As such, Punchbowl Road / Site Access intersection is anticipated to operate satisfactorily following the construction and operation of the development.

6.3 Turn Warrant Assessment

A turn warrant assessment has been undertaken in accordance with the Department of Transport and Main Roads (DTMR) Road Planning and Design Manual Edition 2: Volume 3 Supplement to Austroads Guide to Road Design Part 4A: Unsignalised Intersections August 2014. A summary of the traffic movement parameters considered is shown in the following Figure 6.4 below.

Figure 4A-2 - Calculation of the major road traffic volume parameter 'Q_M'



Road Type	Turn Type	Splitter Island	Q_M (veh/h)
2 Lane 2 Way	Right	No	= $Q_{T1} + Q_{T2} + Q_L$
		Yes	= $Q_{T1} + Q_{T2}$
	Left	Yes/No	= Q_{T2}
4 Lane 2 Way	Right	No	= 50% x $Q_{T1} + Q_{T2} + Q_L$
		Yes	= 50% x $Q_{T1} + Q_{T2}$
	Left	Yes/No	= 50% x Q_{T2}

Figure 6.4 Turn Warrants Qm Traffic Flow Calculation

A summary of the study intersection outlined earlier in this report is tabulated below with the required treatments based on Austroads turn warrant assessments. Turn warrant assessment results/graphs for each intersection are provided in Table 6.6 below.

The turn warrant assessments were conducted for the opening year of the operations stage of the development (i.e. 2026).

6.3.1 Flinders Highway and Punchbowl Road

The adopted volumes for the turn warrant assessment as shown in Table 6.6 with the turn warrant diagram shown in Figure 6.5.

Table 6.6 Flinders Highway / Punchbowl Road Intersection Trips Peak Hours

Traffic Volume	AM peak hour	PM peak hour
Q_{T1} (northbound)	15	20
Q_{T2} (southbound)	30	21
Q_L (from the south)	10	18
Q_R (from the north)	23	22
Q_M Left	30	21
Q_M Right	55	59

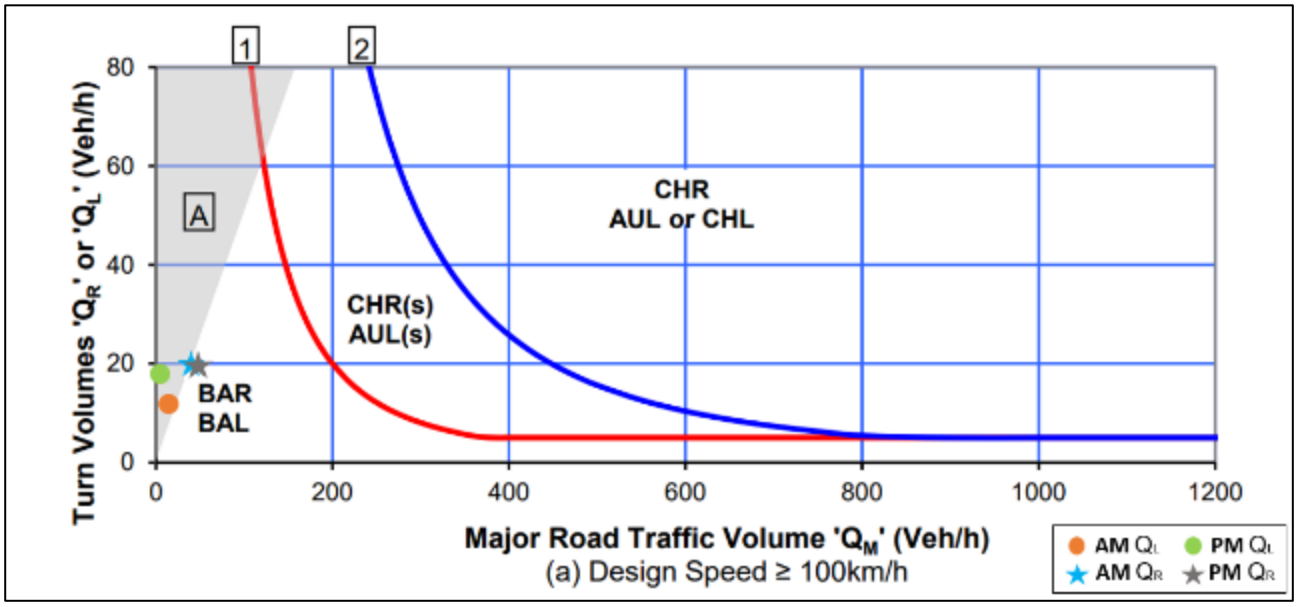


Figure 6.5 Turn Warrant Assessment Flinders Highway / Punchbowl Road Intersection

The assessment above indicates that the Flinders Highway / Punchbowl Road intersection will require the provision of a Basic Right-turn (BAR) and a Basic Auxiliary Left Turn (BAL) treatment.

6.3.2 Punchbowl Road and Shaw Street

The adopted volumes for the turn warrant assessment as shown in Table 6.7 with the turn warrant diagram shown in Figure 6.6.

Table 6.7 Punchbowl Road / Shaw Street Intersection Trips Peak Hours

Traffic Volume	AM peak hour	PM peak hour
Q_{T1} (northbound)	1	1
Q_{T2} (southbound)	1	1
Q_L (from the south)	2	1
Q_R (from the north)	41	34
Q_M Left	1	1
Q_M Right	4	3

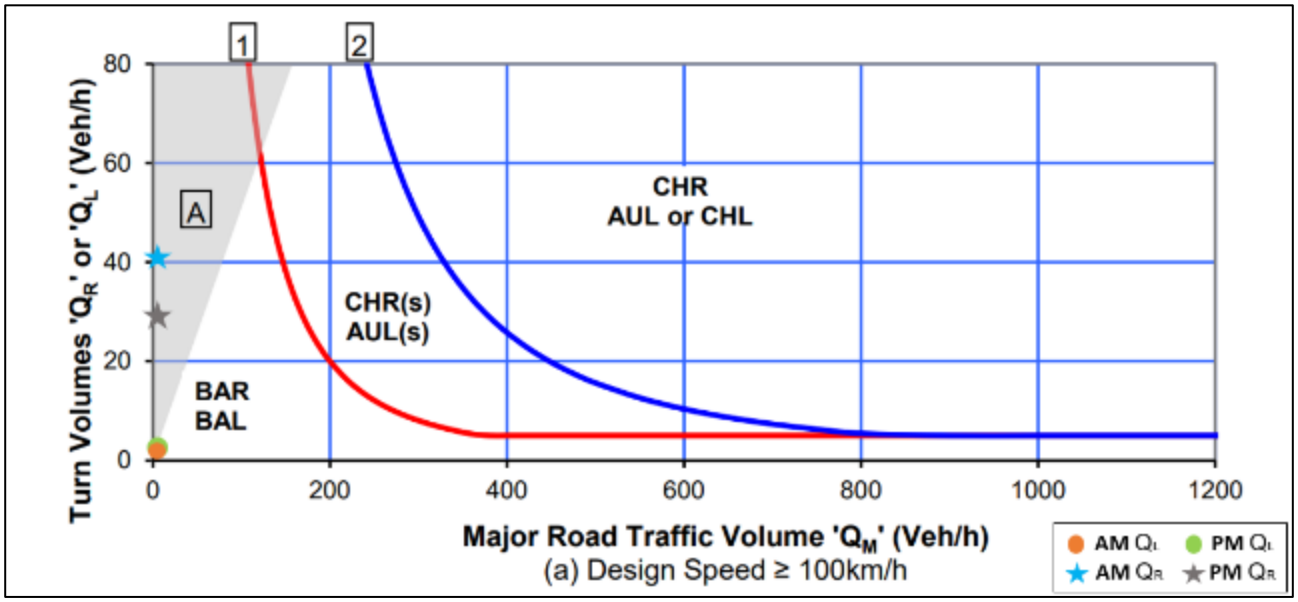


Figure 6.6 Turn Warrant Assessment Punchbowl Road / Shaw Street Intersection

The assessment above indicates that the Punchbowl Road / Shaw Street intersection will require the provision of a Basic Right-turn (BAR) and a Basic Auxiliary Left Turn (BAL) treatment.

6.3.3 Punchbowl Road and Access Road

The adopted volumes for the turn warrant assessment as shown in Table 6.8 with the turn warrant diagram shown in Figure 6.7.

Table 6.8 Site Access Road / Punchbowl Road Intersection Trips Peak Hours

Traffic Volume	AM peak hour	PM peak hour
Q_{T1} (northbound)	1	7
Q_{T2} (southbound)	11	4
Q_L (from the south)	31	31
Q_R (from the north)	1	1
Q_M Left	11	4
Q_M Right	43	42

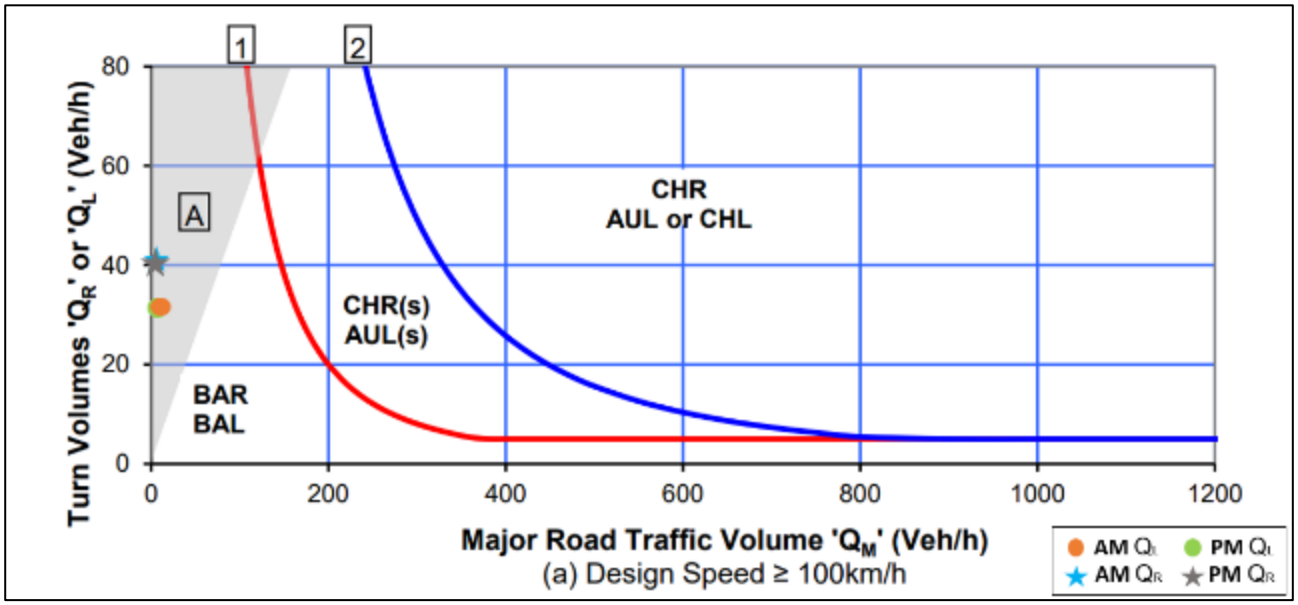


Figure 6.7 Turn Warrant Assessment Site Access Road / Punchbowl Road Intersection

The assessment above indicates that the site access intersection will require the provision of a Basic Right-turn (BAR) and a Basic Auxiliary Left Turn (BAL) treatment.

Table 6.9 summarises the results of the turn warrant assessments for each study intersection for the worst-case development and background traffic volumes.

Table 6.9 Turn Warrant Existing Treatments and Required Treatments

Intersection	Existing Treatments (Major Movements)		Required Treatments (Major Movements)	
	Left Turn	Right Turn	Left Turn	Right Turn
Flinders Highway / Punchbowl Road	BAL	BAR	BAL	BAR
Punchbowl Road / Shaw Street	BAL	BAR	BAL	BAR
Punchbowl Road / Access Road	BAL	BAR	BAL	BAR

On the basis of the turn warrant assessment, the existing turn treatments are considered to accord with Austroads turn warrant requirements.

7. Mitigation Strategies

7.1 Sight Distance

Reference to Austroads Guide to Road Design indicates that the site access is required to provide a Safe Intersection Sight Distance (SISD) of 285m adopting a 100km/hr design speed and a driver reaction time of 2 seconds.

The site access intersection with Punchbowl Road has been designed to maximize the achievable sight distances, the following SISD are provided:

Access:

- 400m+ to the North; and
- 400m+ to the South.

Based on the above, the sight distance provisions at the site access points are considered to be satisfactory from a traffic engineering perspective.

It's recommended that maintenance of the Punchbowl Road verge be monitored to ensure that adequate sight distance is retained during the life of the project.

7.2 Cross-Section Fit for Use Assessment

Proposed design AADT of cross-section widths for rural roads form the fit for use criteria. Desirable traffic lanes and shoulder widths are adopted to optimise safety and environmental impacts. Performance of single carriageway rural roads is detailed in Austroad's *Guide to Road Design Part 3 Geometric Design.* Table 7.1 identifies desirable cross-sectional characteristics for varying design ADDT volumes.

Table 7.1 Single Carriageway Rural Road Width

Element	Design AADT				
	1-150	150-500	500-1,000	1,000-3,000	>3,000
Traffic Lanes (m)	3.7 (1 x 3.7)	6.2 (2 x 3.1)	6.2-7.0 (2 x 3.1/3.5)	7.0 (2 x 3.5)	7.0 (2 x 3.5)
Total Shoulder (m)	2.5	1.5	1.5	2.0	2.5
Minimum Shoulder Seal (m)	0	0.5	0.5	1.0	1.5
Total Carriageway (m)	8.7	9.2	9.2-10.0	11.0	12.0

Source: Austroads: *Guide to Road Design Part 3 Geometric Design - 2016*

Austroad's *Guide to Road Design Part 3 Geometric Design* identifies the desirable lane width for rural roads to be 3.5m to allow large vehicles to pass without either vehicle veering towards the outer edge of the lane. Time period of project road use will dictate the validity of potential carriageway widening works.

7.2.1 Fit For Use Assessment

Fitness for use has been assessed for each project road based on three criteria:

- Suitable road condition – the existing road is in a generally good condition for vehicular travel, based on site observations;
- Sufficient road capacity – the existing road form is sufficient to accommodate baseline plus development traffic volumes according to the Austroads road link capacities, discussed at section 7.2; and
- Adequate road safety – the road configuration provides for adequately safe travel for users, based on site observations.

A road can be identified as unfit if any of the above three (3) criteria are not adequately met. For such cases, potential mitigation items should be identified to ameliorate the issues.

Based on the findings of the fit for use assessment, Punchbowl Road is considered to be unfit for use in its current configuration. The potential mitigations have been recommended in the Table 7.2.

Table 7.2 Fit for use Assessment for Punchbowl Road

Road	Suitable Road Condition	Sufficient Road Capacity	Adequate Road Safety	Potential Mitigation
Punchbowl Road	No	Yes	No	Apply localised gravel formations and provide maintenance. Upgrade the single width cattle grids to double width (refer to additional detail below). Maintain the overgrown vegetation on the shoulder and intersections. (Chainage from Punchbowl Road and Shaw Street intersection to 65 km (front of the Site Access and Punchbowl Road intersection)

As previously noted, Punchbowl Road incorporates a range of physical features along its length including but not limited to:

- multiple single-width cattle grids;
- vertical crests and horizontal bends;
- floodways (some on bends);
- single-width floodway bridges; and
- damaged road surface in some sections of the road.

If required, infrastructure agreement with the relevant local or state governing bodies may be entered into to address ongoing use of road infrastructure and any future upgrades required for the Project.

8. Summary and Recommendations

The Project will be comprised of a mine and associated infrastructure approximately 70km north of Julia Creek, with capabilities of delivering up to 1.9 Mtpa of ROM ore during mining operations which is expected to last for over a period of approximately 26 years.

To facilitate the processing of the ore, the Project will include the construction and implementation of a MPP, MIA, ore handling facilities, raw water supply pumping and storage including a pipeline connection to the MIA, 10 MW solar array with storage.

The Project will be accessed via Punchbowl Road for both stages (construction and operation), approximately 70 km North of Punchbowl Road and Flinders Highway intersection.

In light of the above, the following concluding statements are made:

- It is expected to have a 25 heavy vehicle movements per day during the operation stage which will be the highest number of heavy vehicle daily movement in any stages.
- The construction and operation workforce operators and staff will be accommodated in the on-site workers village.
- A peak of 90 staff members will be on-site during the operations stage.
- Shift change (crew replacement) will occur on every 8th day, with traffic resulting from shift change peaking to up to 50 vph (at shift change times only)
- Site investigation has been undertaken for the SISD at the location of the study intersections. From site investigations and SISD checks, all intersections meet the required sight distance with the exception of Punchbowl Road and Shaw Street intersection that requires minor landscaping within the verge on Punchbowl Road.
- Crash analysis of the subject intersections and project roads indicates that there are no pre-existing safety issues,
- The Project vehicle trips were determined via anticipated workforce numbers within each stage, as well as accommodation and transportation mode distributions provided by Vecco,
- A SIDRA Assessment indicated that project roads will operate at LOS A and will not largely increase compared to background traffic conditions,
- Turn Warrant Assessment indicated that all existing intersection formations are appropriate for their use, and do not require upgrade with the addition of development volumes to the end of life of the Project.

In addition to the above, the following recommendations and / or other considerations have been made:

- Infrastructure such as culverts and structures along Punchbowl Road may be assessed to determine if any, upgrade works are required,
- A number of safety mitigation measures have been identified to ensure Project traffic is able to safely travel on the identified roads.

9. References

Department of Main Roads 2021, Road Planning and Design Manual: Supplement to Austroads Guide to Road Design Part 4A: *Unsignalised and Signalised Intersections*.

Department of Main Roads 2006, *Guidelines for Assessment of Road Impacts of Development*, Queensland Government, Brisbane.

Roads and Traffic Authority (RTA) 2002, *Guide to Traffic Generating Developments*, Roads and Traffic Authority, Sydney.

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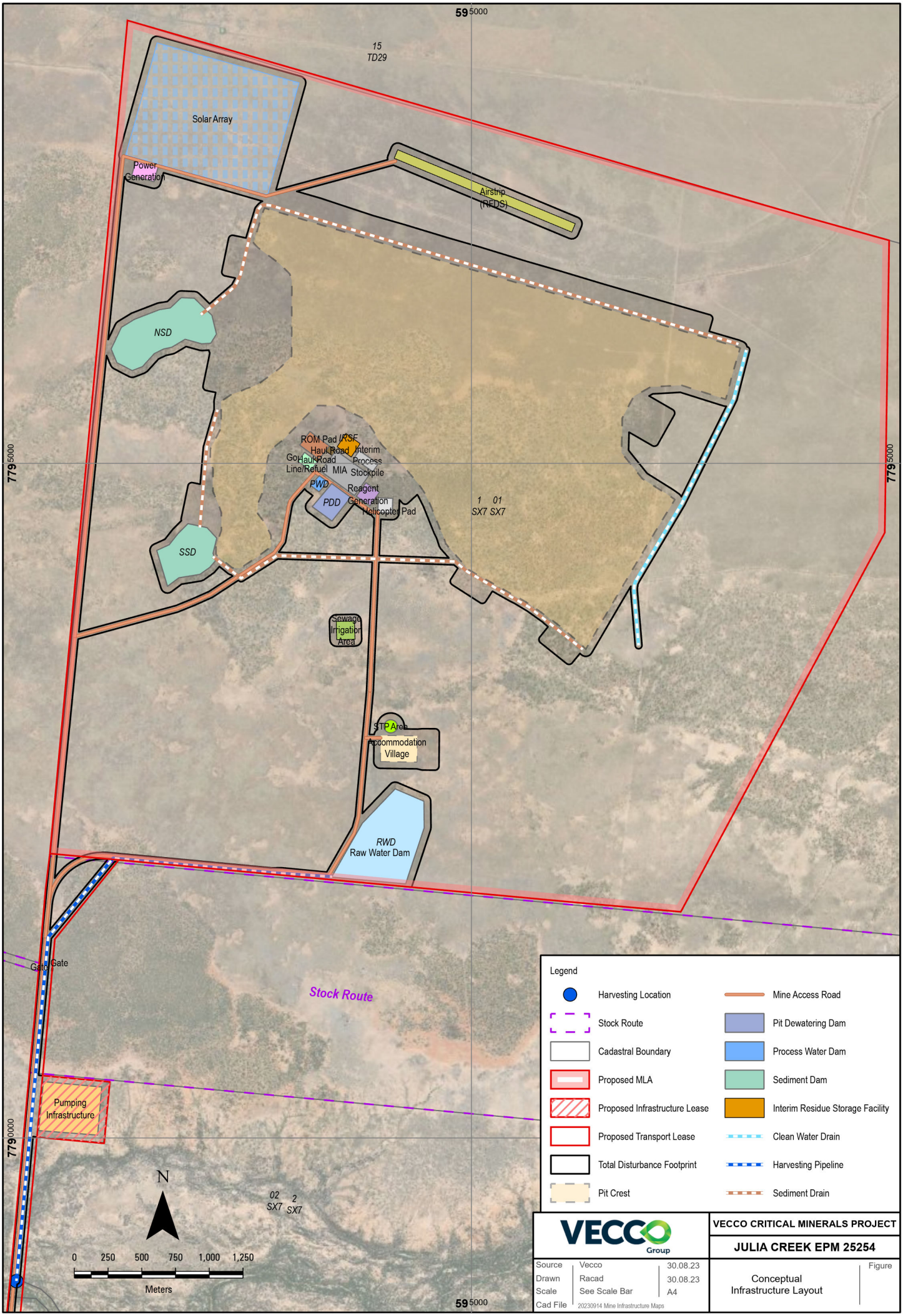
Appendix A – Proposed Site Layout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779000
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TD29
Solar Array
Power Generation
Airstrip (REDS)
NSD
SSD
ROM Pad
RSF
Haul Road
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Go Line/Refuel
Haul Road
MIA
PWD
PDD
Reagent Generation
Helicopter Pad
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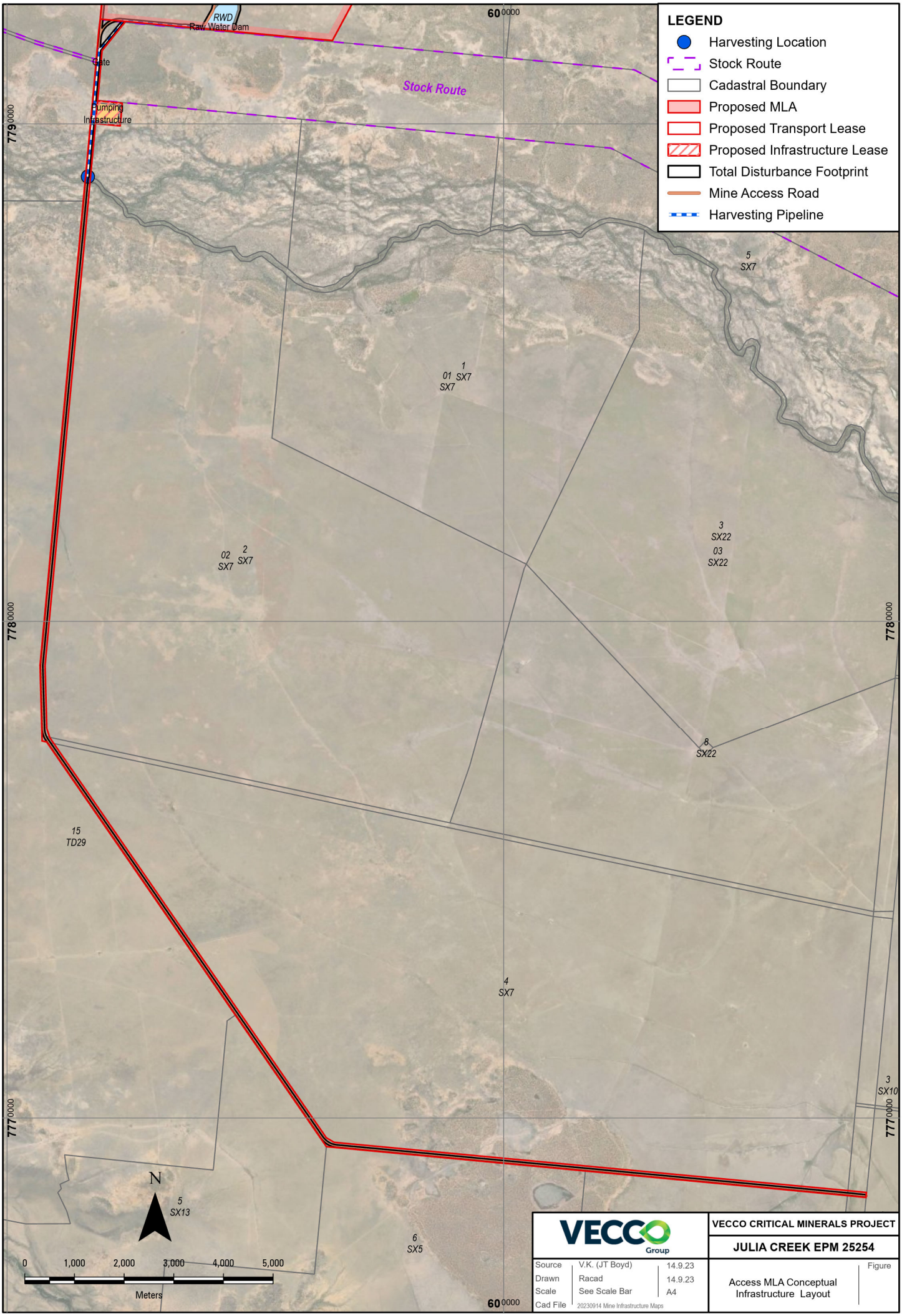
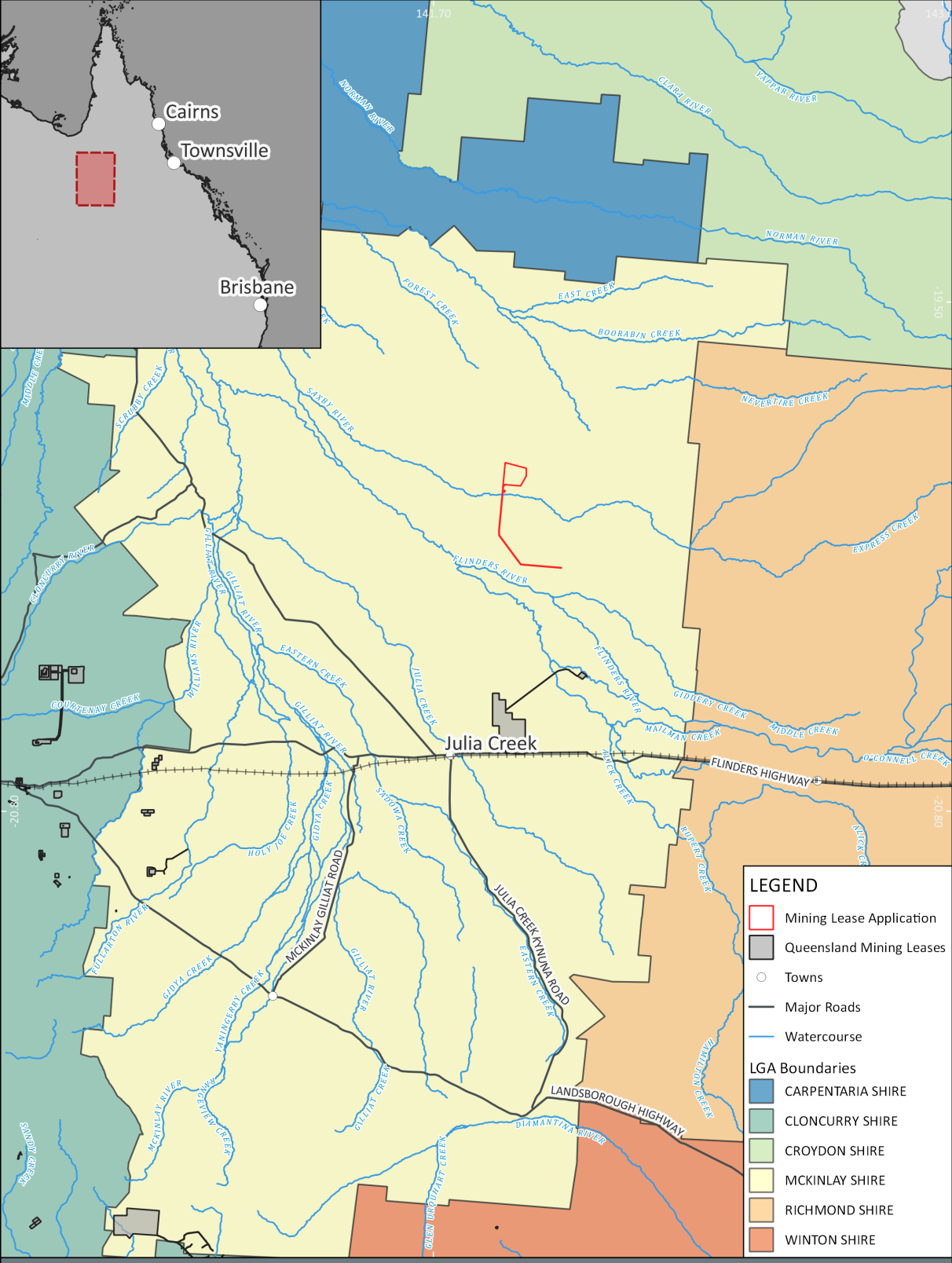
SX7 SX7
Sewage Irrigation Area
STP Area
Accommodation Village
RWD
Raw Water Dam
Gate
Gate
Stock Route
Pumping Infrastructure
02 2
SX7 SX7
N
0 250 500 750 1,000 1,250
Meters
Legend
Harvesting Location
Stock Route
Cadastral Boundary
Proposed MLA
Proposed Infrastructure Lease
Proposed Transport Lease
Total Disturbance Footprint
Pit Crest
Mine Access Road
Pit Dewatering Dam
Process Water Dam
Sediment Dam
Interim Residue Storage Facility
Clean Water Drain
Harvesting Pipeline
Sediment Drain
VECCO Group
VECCO CRITICAL MINERALS PROJECT
JULIA CREEK EPM 25254
Source Vecco 30.08.23
Drawn Racad 30.08.23
Scale See Scale Bar A4
Cad File 20230914 Mine Infrastructure Maps
Conceptual Infrastructure Layout
Figure


LEGEND
Harvesting Location
Stock Route
Cadastral Boundary
Proposed MLA
Proposed Transport Lease
Proposed Infrastructure Lease
Total Disturbance Footprint
Mine Access Road
Harvesting Pipeline
RWD
Raw Water Dam
Gate
Pumping Infrastructure
Stock Route
600000
779000
778000
777000
5 SX7
1 01 SX7 SX7
2 02 SX7 SX7
3 SX22 03 SX22
8 SX22
15 TD29
4 SX7
3 SX10
5 SX13
6 SX5
N
0 1,000 2,000 3,000 4,000 5,000
Meters
VECCO Group
VECCO CRITICAL MINERALS PROJECT
JULIA CREEK EPM 25254
Source V.K. (JT Boyd) 14.9.23
Drawn Racad 14.9.23
Scale See Scale Bar A4
Cad File 20230914 Mine Infrastructure Maps
Access MLA Conceptual Infrastructure Layout
Figure



Project Locality

Vecco Critical Minerals Project

Client	Vecco Industrial Pty Ltd
Date	31-08-2023
Author	L.Morgan
Projection	GDA2020 / MGA zone 54
Scale	1:1300000

0 10 20 30 40 km

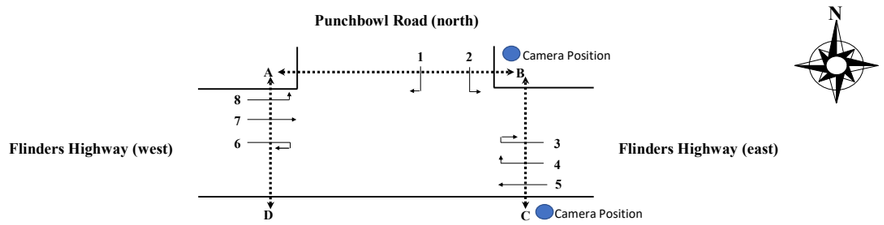
ENVIRONMENTAL SOLUTIONS

Q:\Vecco Group\Debella Project\12 GIS\220801_Project locality\Project_Locality.qgz

Appendix B – Traffic Survey Data

AUSTRAFFIC VIDEO INTERSECTION COUNT

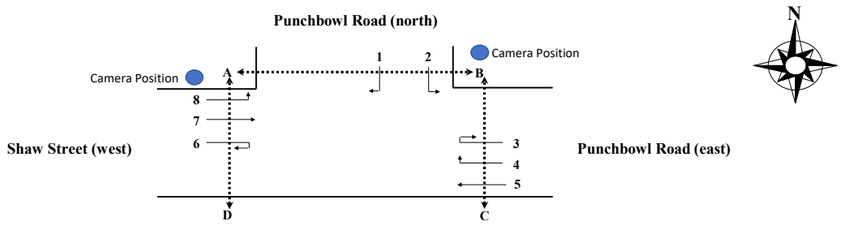
Site No.: 1 **Weather:** Fine
Location: Flinders Highway & Punchbowl Road, Julia Creek
Day/Date: Tuesday, 9 May 2023
AM Peak: *Hour ending - 11:30 AM*
PM Peak: *Hour ending - 5:15 PM*



TIME (1/4 hr end)	Movement 1				Movement 2				Movement 3				Movement 4				Movement 5				Movement 6				Movement 7				Movement 8				Pedestrian Movements											
																																	A - B		B - A		B - C		C - B		D - A		A - D	
	Light Vehicles	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*
6:15 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	2	**3**	0	3	1	**4**	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	2	3	**5**	0	1	2	**3**	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	3	2	**5**	0	2	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	1	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	**0**	0	0	2	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	0	0	0	0	0	0	0	1	0	1	0	0	0
7:45 AM	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	2	**2**	0	0	0	**0**	0	1	1	**2**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	1	**2**	0	0	0	**0**	0	3	1	**4**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	4	0	**4**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	1	**3**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	4	0	**4**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	1	0	**1**	0	0	2	**2**	0	0	0	**0**	0	0	0	**0**	0	4	1	**5**	0	0	0	**0**	0	2	1	**3**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	2	4	**6**	0	0	0	**0**	0	4	1	**5**	0	2	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	2	**2**	0	3	1	**4**	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	3	2	**5**	0	0	0	**0**	0	2	0	**2**	0	2	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	1	**2**	0	0	0	**0**	0	1	1	**2**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	1	1	**2**	0	0	2	**2**	0	0	0	**0**	0	0	0	**0**	0	4	1	**5**	0	0	0	**0**	0	3	2	**5**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0	0	0	**0**	0	5	2	**7**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	4	0	**4**	0	0	0	**0**	0	5	3	**8**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	3	**4**	0	0	0	**0**	0	6	3	**9**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	1	**3**	0	0	0	**0**	0	1	0	**1**	0	3	0	**3**	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	1	**2**	0	0	0	**0**	0	2	2	**4**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	3	2	**5**	0	0	0	**0**	0	2	0	**2**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	4	1	**5**	0	0	0	**0**	0	4	1	**5**	0	2	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	4	1	**5**	0	0	0	**0**	0	3	1	**4**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	5	1	**6**	0	0	0	**0**	0	3	1	**4**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	3	1	**4**	0	0	0	**0**	0	3	1	**4**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	4	1	**5**	0	0	0	**0**	0	3	0	**3**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	5	0	**5**	0	0	0	**0**	0	2	2	**4**	0	0	0	**0**	0	0	0	0	0	0	0	1	0	0	0	0	0
2:00 PM	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	5	1	**6**	0	0	0	**0**	0	6	0	**6**	0	0	1	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	3	1	**4**	0	1	0	**1**	0	1	1	**2**	0	2	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	1	2	**3**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0	0	0	**0**	0	6	1	**7**	0	0	0	**0**	0	3	0	**3**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	3	0	**3**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	6	3	**9**	0	0	0	**0**	0	1	1	**2**	0	0	1	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	6	2	**8**	0	0	0	**0**	0	1	1	**2**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	3	2	**5**	0	0	0	**0**	0	1	1	**2**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	5	4	**9**	0	0	0	**0**	0	2	1	**3**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	3	1	**4**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	6	1	**7**	0	0	0	**0**	0	3	2	**5**	0	3	0	**3**	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	4	1	**5**	0	0	0	**0**	0	2	3	**5**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	1	**3**	0	0	0	**0**	0	1	4	**5**	0	2	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	4	0	**4**	0	0	0	**0**	0	5	0	**5**	0	2	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	4	1	**5**	0	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	2	**2**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	2	**3**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
12 hr Total	18	1	**19**	0	4	6	**10**	0	1	0	**1**	0	5	4	**9**	0	123	49	**172**	0	1	0	**1**	0	108	48	**156**	0	32	6	**38**	0	0	0	0	0	0	0	0	0	2	0	1	0
AM Peak	1	1	**2**	0	0	2	**2**	0	0	0	**0**	0	1	0	**1**	0	10	4	**14**	0	0	0	**0**	0	19	10	**29**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	16	3	**19**	0	0	0	**0**	0	11	9	**20**	0	8	0	**8**	0	0	0	0	0	0	0	0	0	0	0	0	0

AUSTRAFFIC VIDEO INTERSECTION COUNT

Site No.: 2 **Weather:** Fine
Location: Punchbowl Road & Shaw Street, Julia Creek
Day/Date: Tuesday, 9 May 2023
AM Peak: *Hour ending - 7:00 AM*
PM Peak: *Hour ending - 1:15 PM*



TIME (1/4 hr end)	Movement 1				Movement 2				Movement 3				Movement 4				Movement 5				Movement 6				Movement 7				Movement 8				Pedestrian Movements											
																																	A - B		B - A		B - C		C - B		D - A		A - D	
	Light Vehicles	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Light Vehicles*	*Heavy Vehicles*	***Total***	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*	*Pedestrians*	*Cyclists*
6:15 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	3	1	**4**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	2	**3**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	2	**2**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	**0**	0	0	2	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
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1:00 PM	3	0	**3**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
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1:30 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
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3:15 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	1	**1**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
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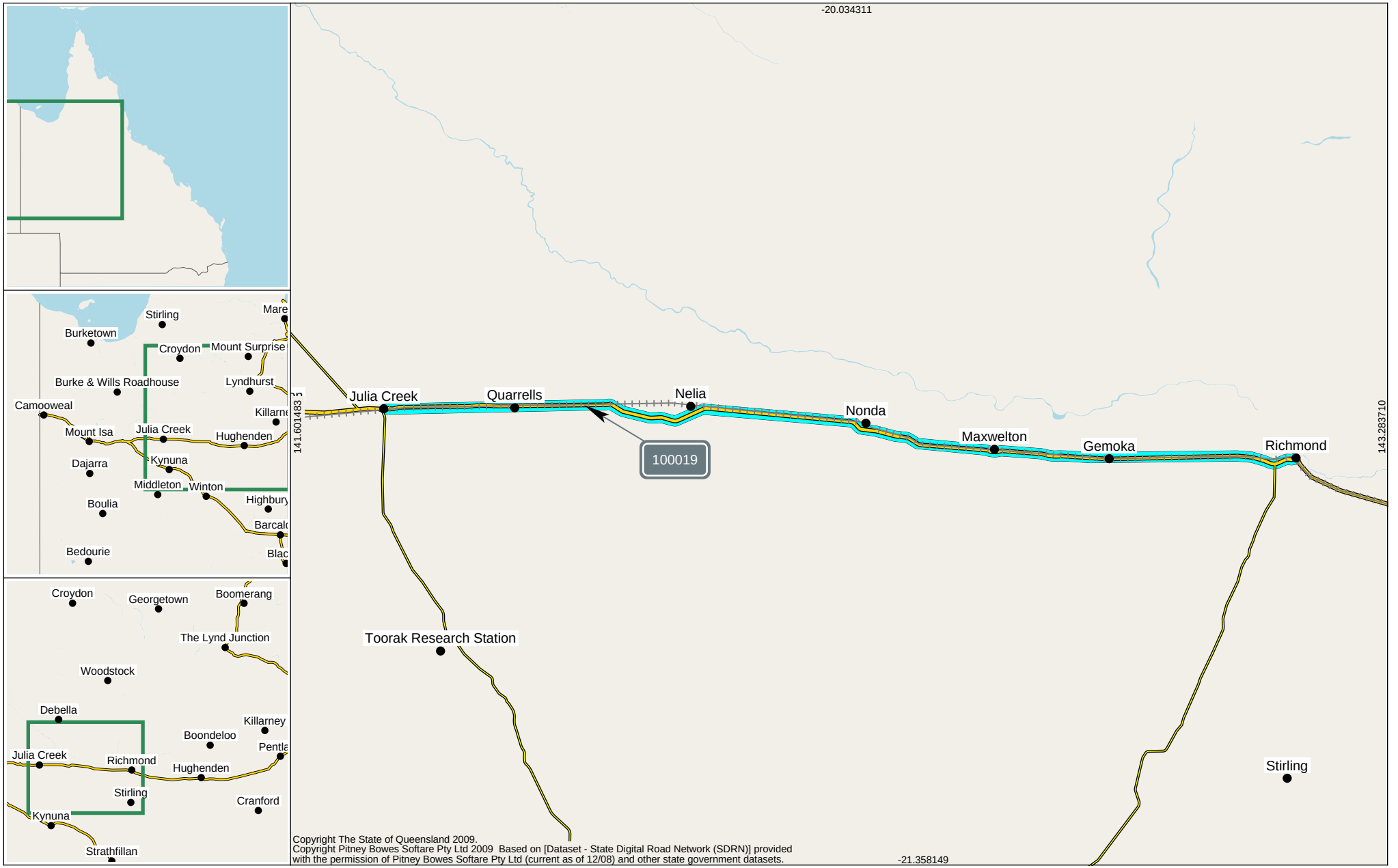
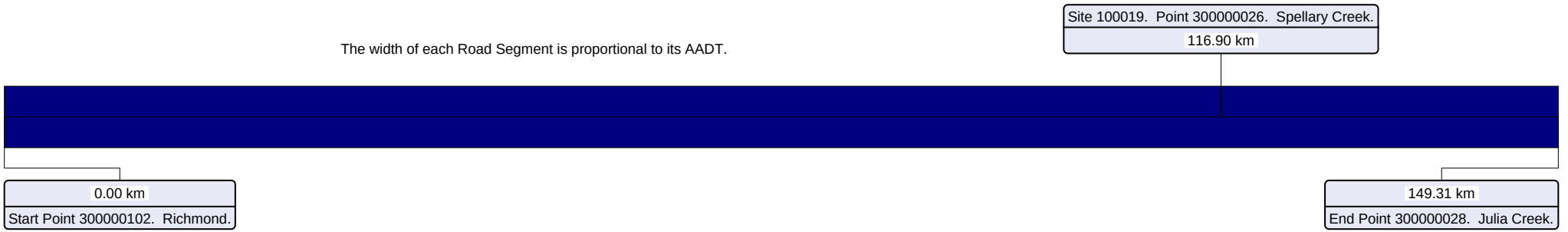
5:00 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	1	**2**	0	1	0	**1**	0	0	0	**0**	0	1	0	**1**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	1	1	**2**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	0	0
12 hr Total	12	4	**16**	0	7	3	**10**	0	0	0	**0**	0	17	7	**24**	0	20	3	**23**	0	3	0	**3**	0	15	4	**19**	0	6	1	**7**	0	0	0	1	0	0	0	0	0	0	0	0	0
AM Peak	1	0	**1**	0	0	0	**0**	0	0	0	**0**	0	6	3	**9**	0	0	1	**1**	0	0	0	**0**	0	0	0	**0**	0	1	1	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0
PM Peak	6	1	**7**	0	0	0	**0**	0	0	0	**0**	0	3	0	**3**	0	1	0	**1**	0	1	0	**1**	0	0	0	**0**	0	1	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	0

Area 409 - North West District Road Section 14D - FLINDERS HIGHWAY (RICHMOND - JULIA CREEK)

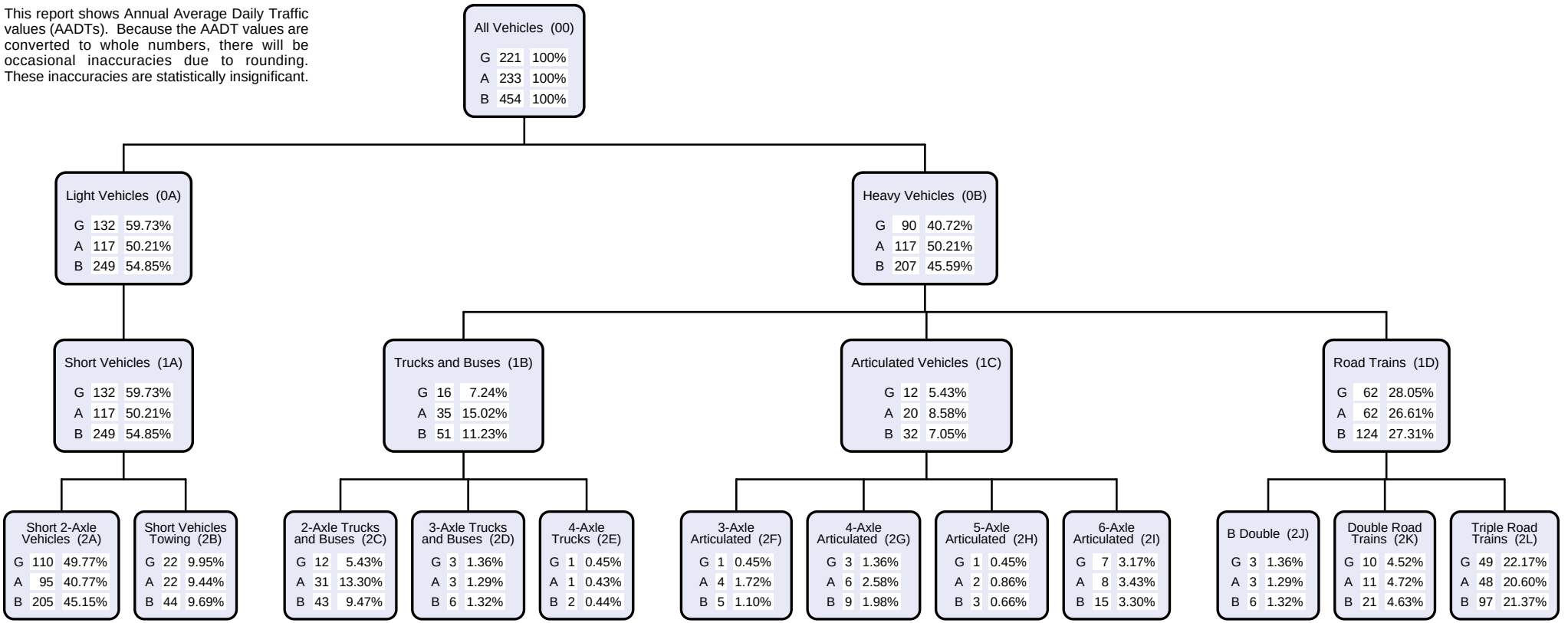
Road Segment from 0.000km to 149.310km Segment Site 100019 Traffic Year 2019 Data Collection Year 2019



The width of each Road Segment is proportional to its AADT.



This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.



AADT Segment Annual Volume Report
Provides summary data for the selected AADT Segment of a Road Section. Summary data is presented as both directional information and a combined bi-directional figure. The data is then broken down by Traffic Class, when available. The report also includes maps displaying the location of both the AADT Segment and the traffic count site.

Annual Average Daily Traffic (AADT)
Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segments
The State declared road network is broken into Road Sections and then further broken down into AADT Segments. An AADT Segment is a sub-section of the declared road network where traffic volume is similar along the entire AADT Segment.

Area
For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitian District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

AADT Values
AADT values are displayed by direction of travel as:

- G Traffic flow in gazettal direction
- A Traffic flow against gazettal direction
- B Traffic flow in both directions

Data Collection Year
Is the most recent year that data was collected at the data collection site.

Please Note:
Due to location and/or departmental policy, some sites are not counted every year.

Gazettal Direction
Is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

Maps
Display the selected location from a range of viewing levels, the start and end position details for the AADT Segment and the location of the traffic count site.

Road Section
Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Segment Site
Is the unique identifier for the traffic count site representing the traffic flow within the AADT Segment.

Site
The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site Description
The description of the physical location of the traffic counting device.

Start and End Point
The unique identifier for the Through Distance along a Road Section.

Vehicle Class
Traffic is categorised as per the Austroads Vehicle Classification scheme. Traffic classes are in the following hierarchical format:

Volume or All Vehicles
00 = 0A + 0B

Light Vehicles
0A = 1A
1A = 2A + 2B

Heavy Vehicles
0B = 1B + 1C + 1D
1B = 2C + 2D + 2E
1C = 2F + 2G + 2H + 2I
1D = 2J + 2K + 2L

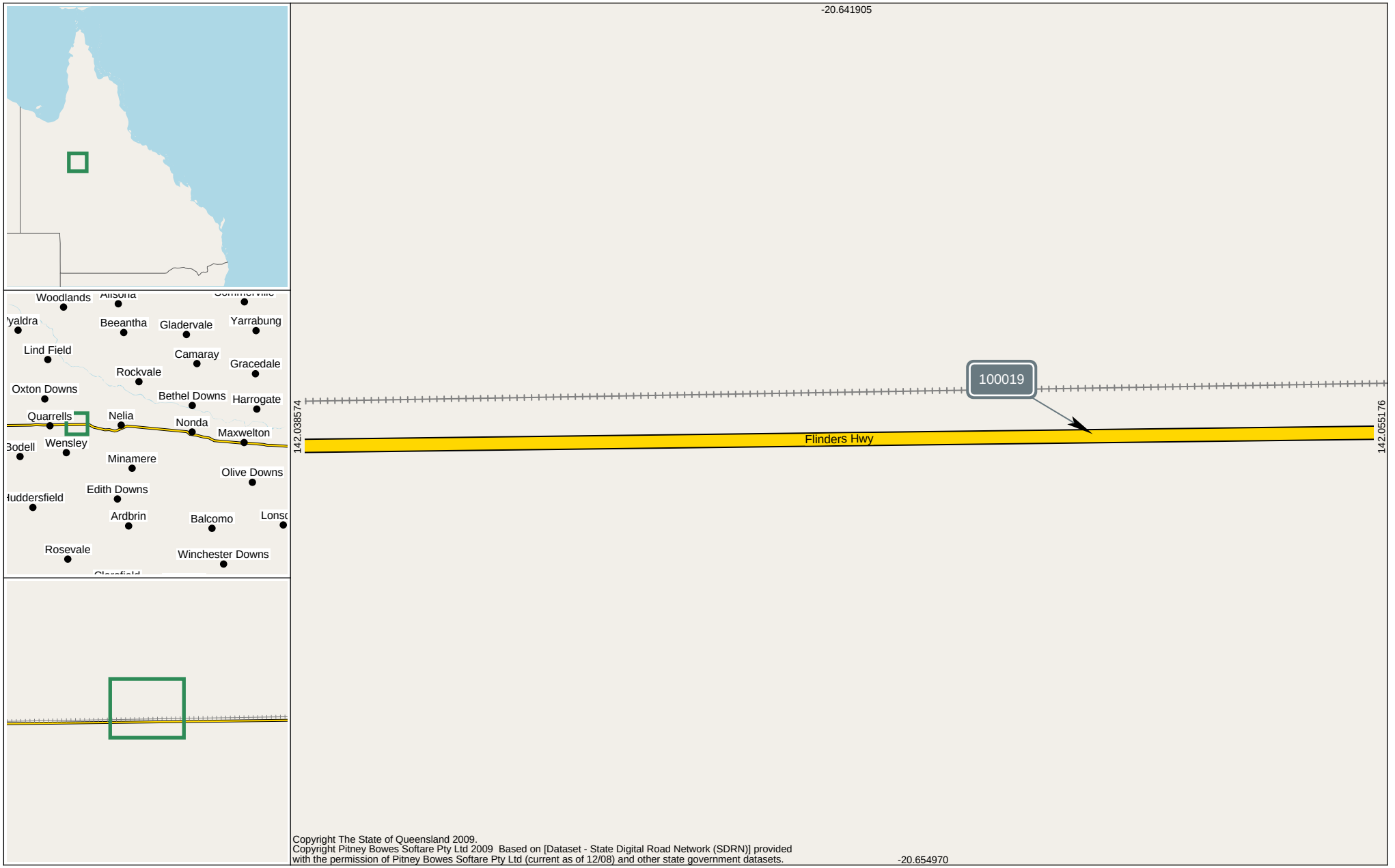
The following classes are the categories for which data can be captured:

Volume
00 All vehicles

2-Bin
0A Light vehicles
0B Heavy vehicles

4-Bin
1A Short vehicles
1B Truck or bus
1C Articulated vehicles
1D Road train

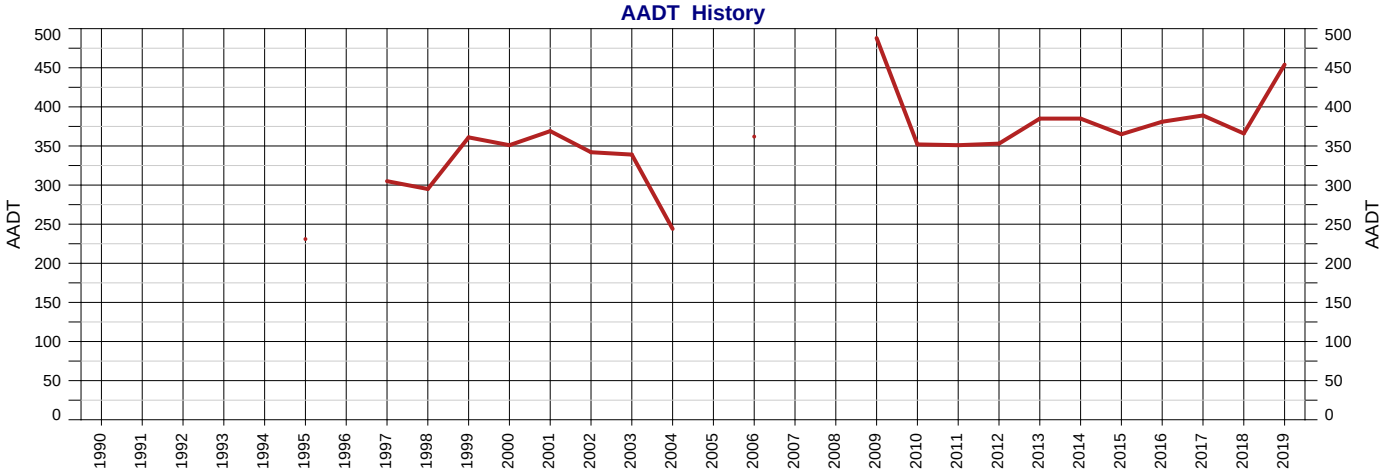
12-Bin
2A Short 2 axle vehicles
2B Short vehicles towing
2C 2 axle truck or bus
2D 3 axle truck or bus
2E 4 axle truck
2F 3 axle articulated vehicle
2G 4 axle articulated vehicle
2H 5 axle articulated vehicle
2I 6 axle articulated vehicle
2J B double
2K Double road train
2L Triple road train



Area	409 - North West District
Road Section	14D - FLINDERS HIGHWAY (RICHMOND - JULIA CREEK)
Site	100019 - 14D Ch 116.9km - Spellary Creek
Thru Dist	116.9
Type	C - Coverage
Stream	TB - Bi-directional traffic flow

Year	2019	Growth last Year	24.04%
AADT	454	Growth last 5 Yrs	5.12%
Avg Week Day	481	Growth last 10 Yrs	2.40%
Avg Weekend Day	413		

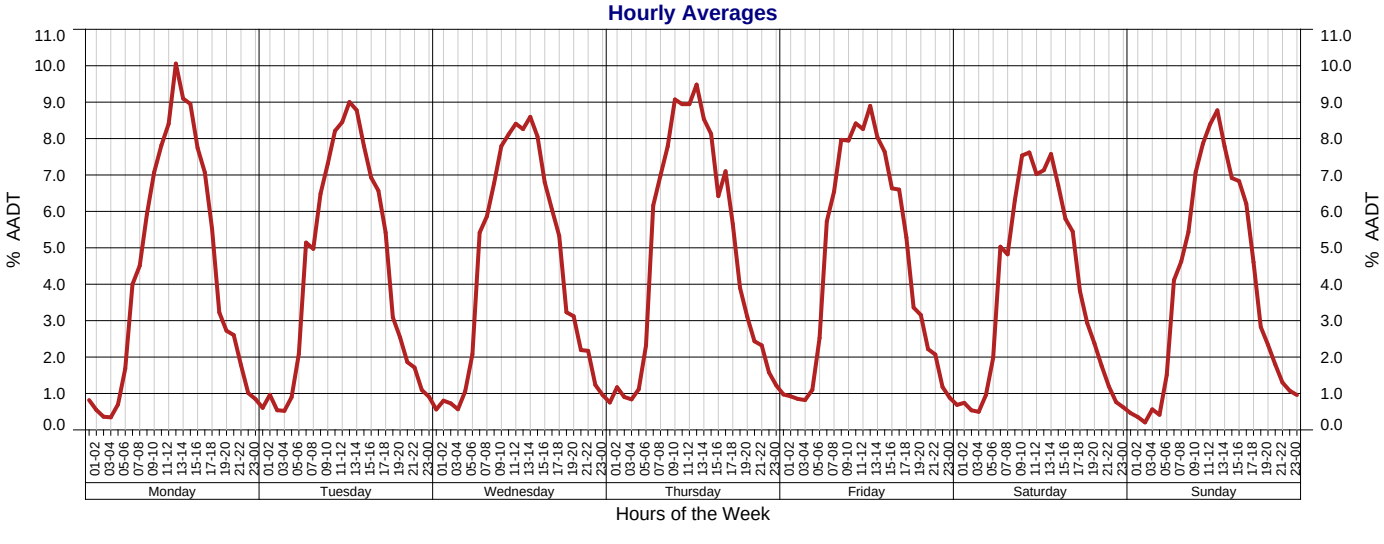
AADT History



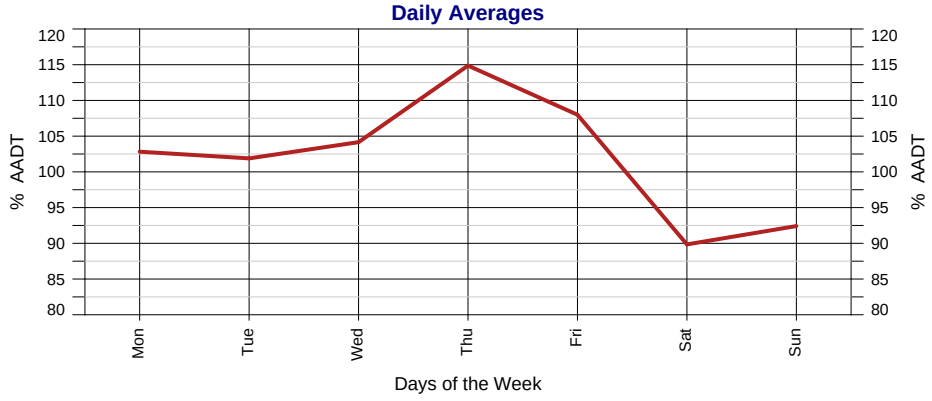
Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2019	454	24.04%	5.12%	2.40%
2018	366	-5.91%	-1.06%	
2017	389	2.10%	1.29%	
2016	381	4.38%	1.29%	-0.02%
2015	365	-5.19%	0.51%	
2014	385	0.00%	-0.68%	2.16%
2013	385	9.07%		2.10%
2012	353	0.57%		0.86%
2011	351	-0.28%	-2.68%	0.54%
2010	352	-27.87%		0.54%
2009	488		13.69%	4.85%
2008				
2007				
2006	362		2.09%	
2005				

Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2004	244	-28.02%	-9.78%	
2003	339	-0.88%	0.29%	
2002	342	-7.32%	1.60%	
2001	369	5.13%		
2000	351	-2.77%	7.53%	
1999	361	22.37%		
1998	295	-3.28%		
1997	305			
1996				
1995	231			
1994				
1993				
1992				
1991				
1990				

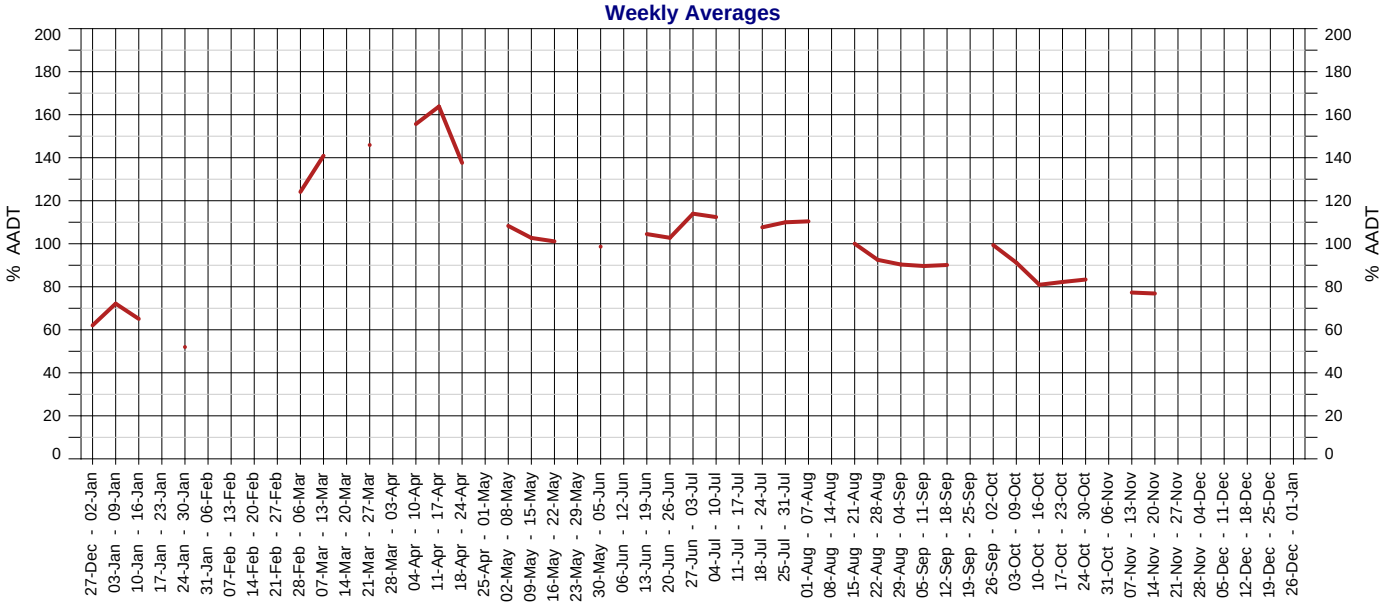
Hourly Averages



Daily Averages



Weekly Averages



2019 Calendar

January

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

February

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

March

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

April

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

May

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

June

M	T	W	T	F	S	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

July

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

August

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

September

M	T	W	T	F	S	S
30						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

October

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

November

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

December

M	T	W	T	F	S	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

Days on which traffic data was collected.

Annual Volume Report
Displays AADT history with hourly, daily and weekly patterns by Stream in addition to annual data for AADT figures with 1 year, 5 year and 10 year growth rates.

Annual Average Daily Traffic (AADT)
Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT History
Displays the years when traffic data was collected at this count site.

Area
For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitian District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Avg Week Day
Average daily traffic volume during the week days, Monday to Friday.

Avg Weekend Day
Average daily traffic volume during the weekend, Saturday and Sunday.

Calendar
Days on which traffic data was collected are highlighted in green.

Gazettal Direction
The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Growth Percentage
Represents the increase or decrease in AADT, using a exponential fit over the previous 1, 5 or 10 year period.

Hour, Day & Week Averages
The amount of traffic on the road network will vary depending on the time of day, the day of the week and the week of the year. The ebb and flow of traffic travelling through a site over a period of time forms a pattern. The Hour, Day and Week Averages are then used in the calculation of AADT.

Road Section
Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site
The unique identifier and description of the physical location of a traffic counting device. Sites are located at a Through Distance along a Road Section.

Stream
The lane in which the traffic is travelling in. This report provides data for the combined flow of traffic in both directions.

Thru Dist or TDist
The distance from the beginning of the Road Section, in kilometres.

Type
There are two types of traffic counting sites, Permanent and Coverage. Permanent means the traffic counting device is in place 24/7. Coverage means the traffic counting device is in place for a specified period of time.

Year
Is the current year for the report. Where an AADT Year record is missing a traffic count has not been conducted, for that year.

Queensland Government

Disclaimer:

AADT Site Profiles Report

Filters

14D Ch 116.9km - Spellary Creek | Both Directions | 2020

AADT	Growth last Year	% of year with data
335	-26.21% ▼	79%
Week day % of AADT	**Growth last 5 years**	
105.34%	-3.35% ▼	
Weekend day % of AADT	**Growth last 10 years**	
86.66%	-1.29% ▼	

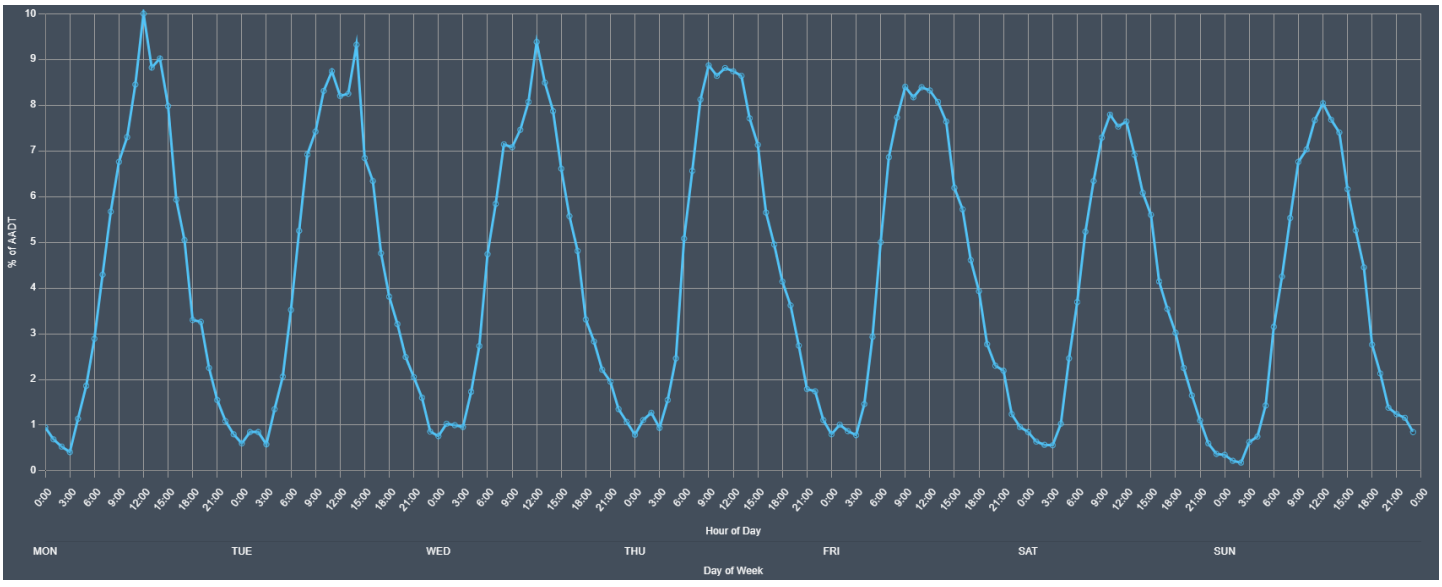
Annual Site Profile

Average Hourly Profile

Year: 2020

Road Section: 14D, FLINDERS HIGHWAY (RICHMOND - JULIA CREEK)

Site: 100019, 14D Ch 116.9km - Spellary Creek, 116.9



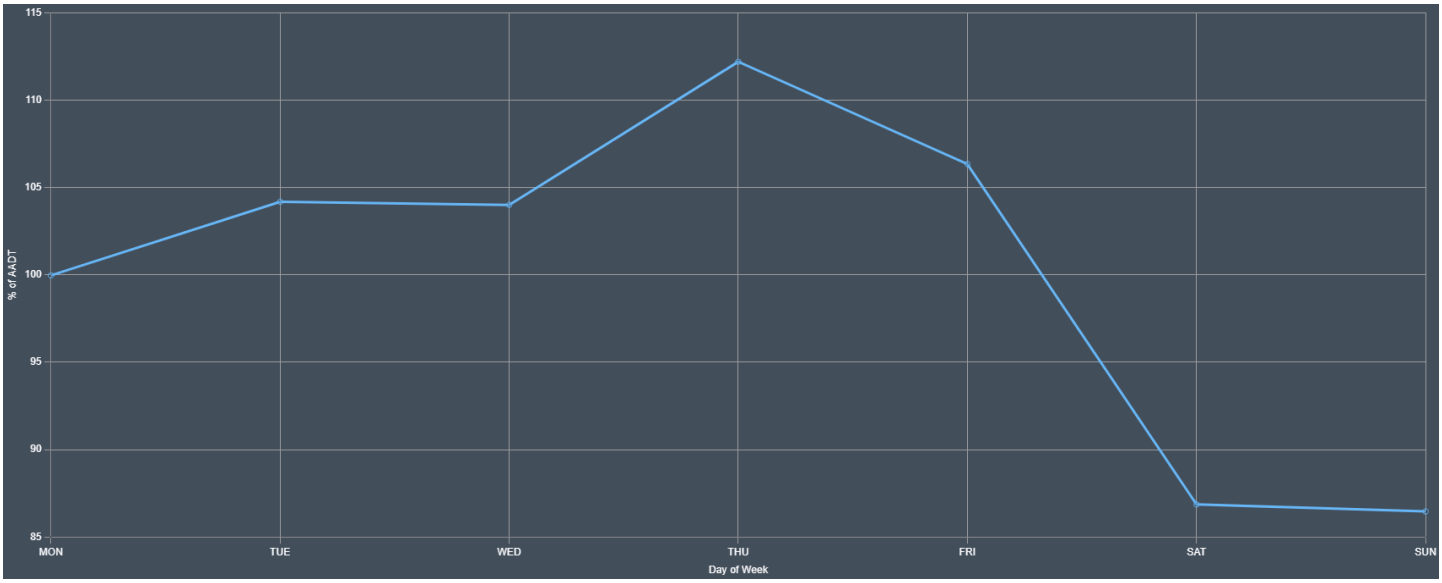
Annual Site Profile

Average Daily Profile

Year: 2020

Road Section: 14D, FLINDERS HIGHWAY (RICHMOND - JULIA CREEK)

Site: 100019, 14D Ch 116.9km - Spellary Creek, 116.9



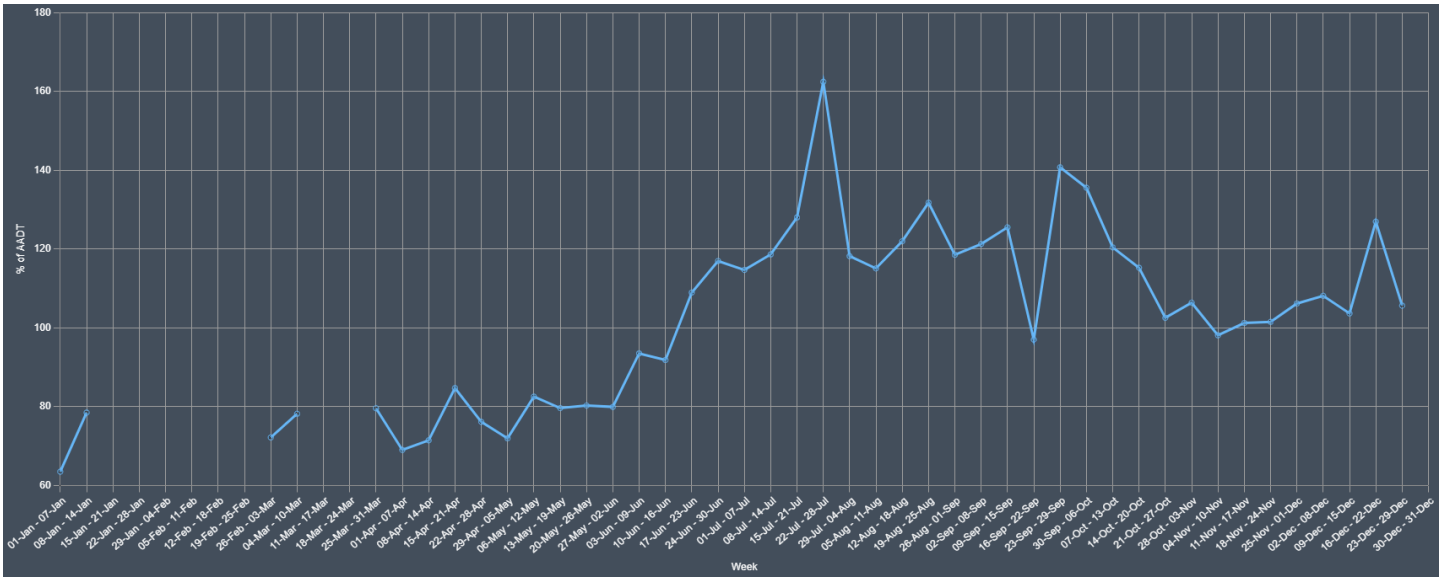
Annual Site Profile

Annual Weekly Profile

Year: 2020

Road Section: 14D, FLINDERS HIGHWAY (RICHMOND - JULIA CREEK)

Site: 100019, 14D Ch 116.9km - Spellary Creek, 116.9



Annual Site Profile

Data Availability

January, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

February, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	

March, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

April, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

May, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

June, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

July, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

August, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

September, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

October, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

December, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Queensland Government

AADT Site Profiles Report

Filters

14D Ch 116.9km - Spellary Creek | Both Directions | 2021

AADT	Growth last Year	% of year with data
382	14.03% ▲	84%
Week day % of AADT	**Growth last 5 years**	
104.77%	-0.26% ▼	
Weekend day % of AADT	**Growth last 10 years**	
88.08%	0.41% ▲	

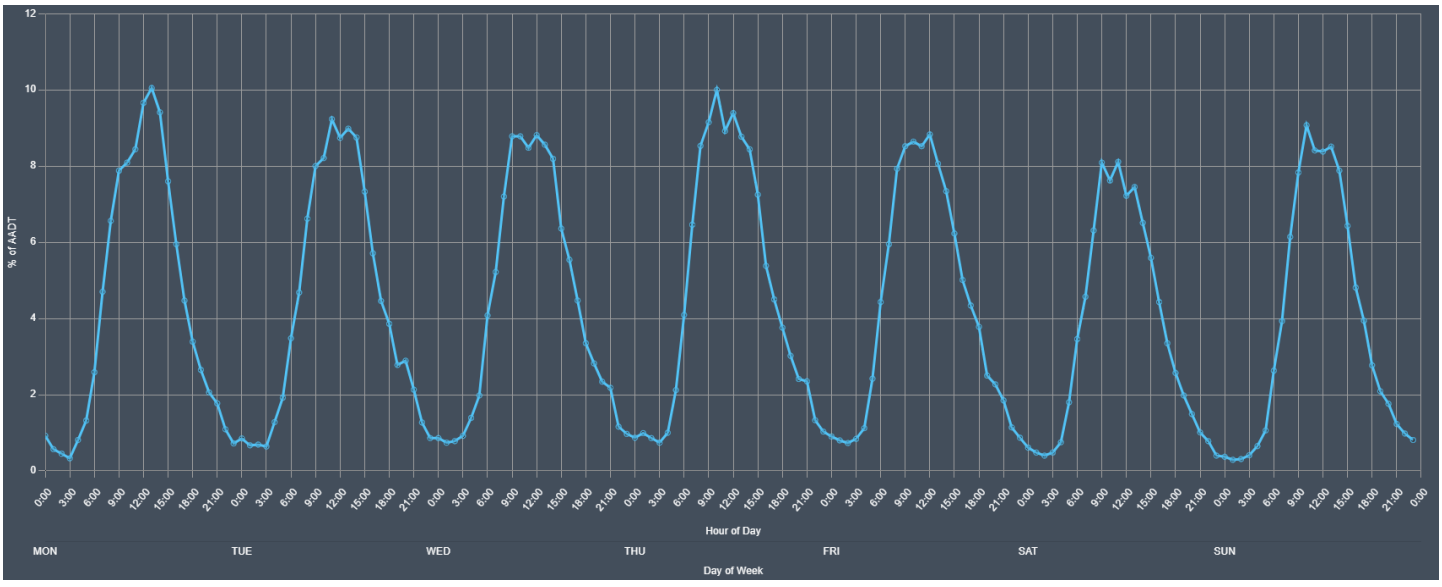
Annual Site Profile

Average Hourly Profile

Year: 2021

Road Section: 14D, FLINDERS HIGHWAY (RICHMOND - JULIA CREEK)

Site: 100019, 14D Ch 116.9km - Spellary Creek, 116.9



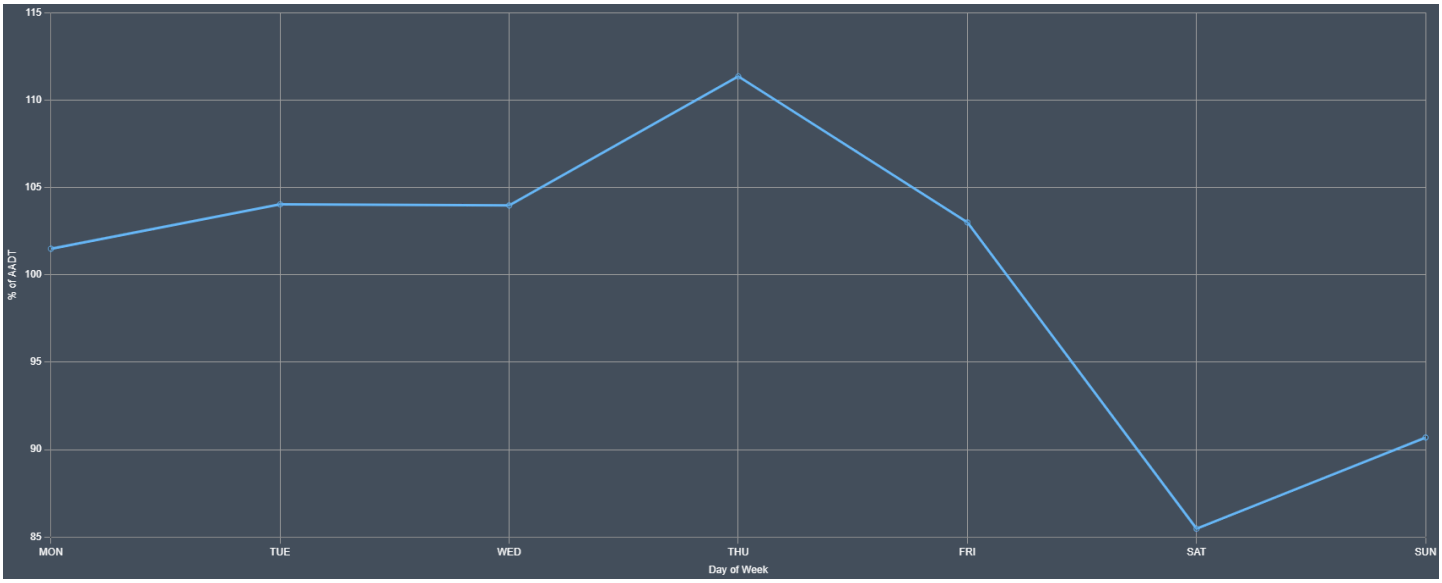
Annual Site Profile

Average Daily Profile

Year: 2021

Road Section: 14D, FLINDERS HIGHWAY (RICHMOND - JULIA CREEK)

Site: 100019, 14D Ch 116.9km - Spellary Creek, 116.9



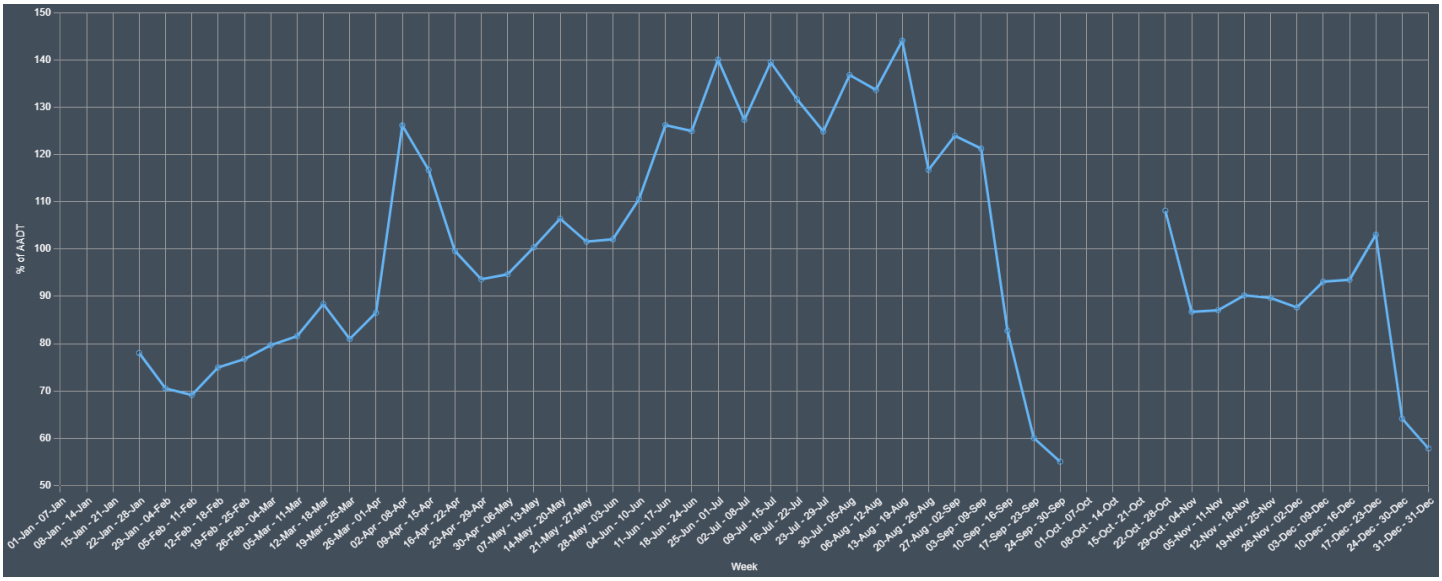
Annual Site Profile

Annual Weekly Profile

Year: 2021

Road Section: 14D, FLINDERS HIGHWAY (RICHMOND - JULIA CREEK)

Site: 100019, 14D Ch 116.9km - Spellary Creek, 116.9



Annual Site Profile

Data Availability

January, 2021

MON	TUE	WED	THU	FRI	SAT	SUN
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

February, 2021

MON	TUE	WED	THU	FRI	SAT	SUN
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

March, 2021

MON	TUE	WED	THU	FRI	SAT	SUN
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

April, 2021

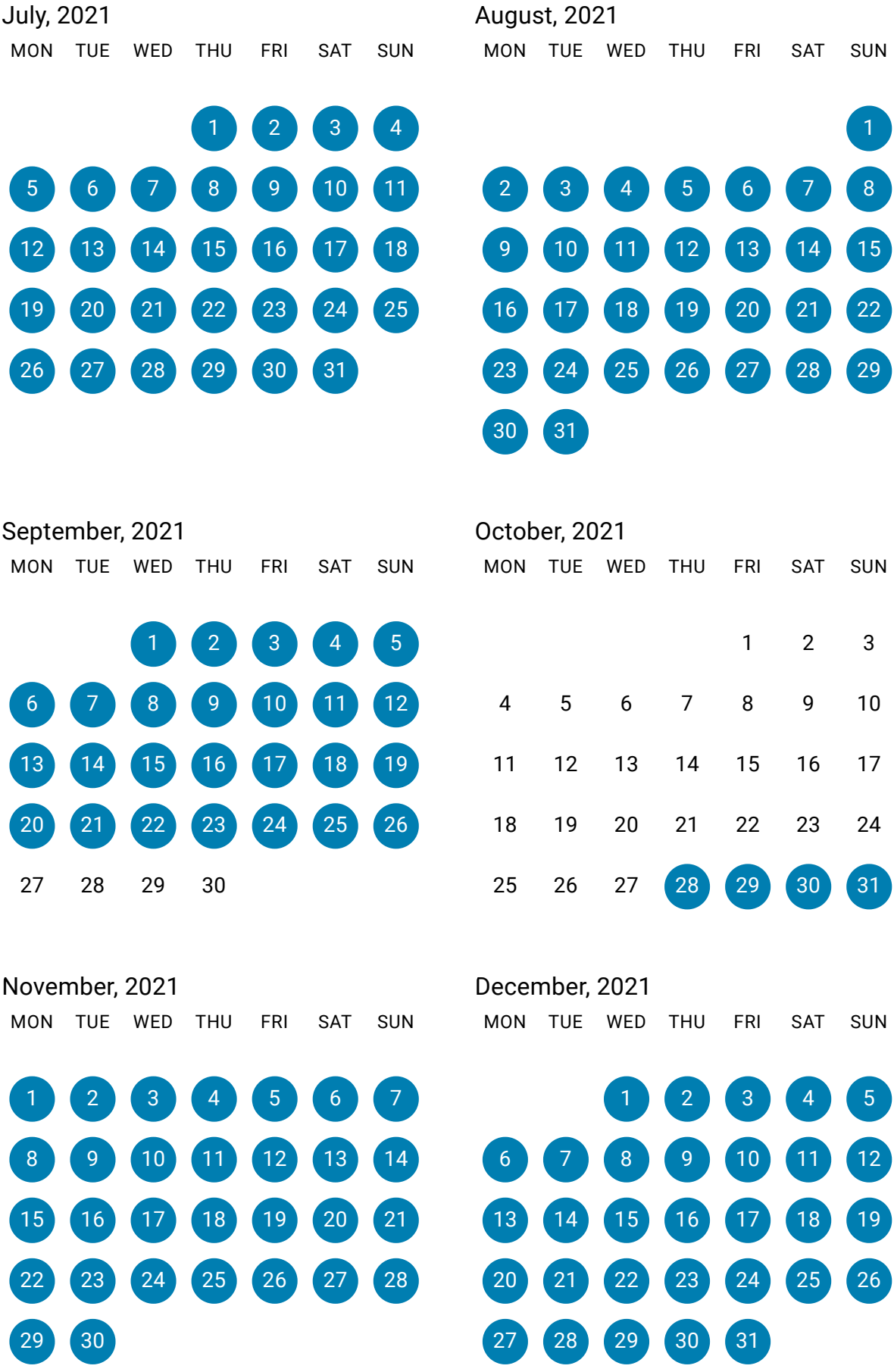
MON	TUE	WED	THU	FRI	SAT	SUN
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

May, 2021

MON	TUE	WED	THU	FRI	SAT	SUN
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

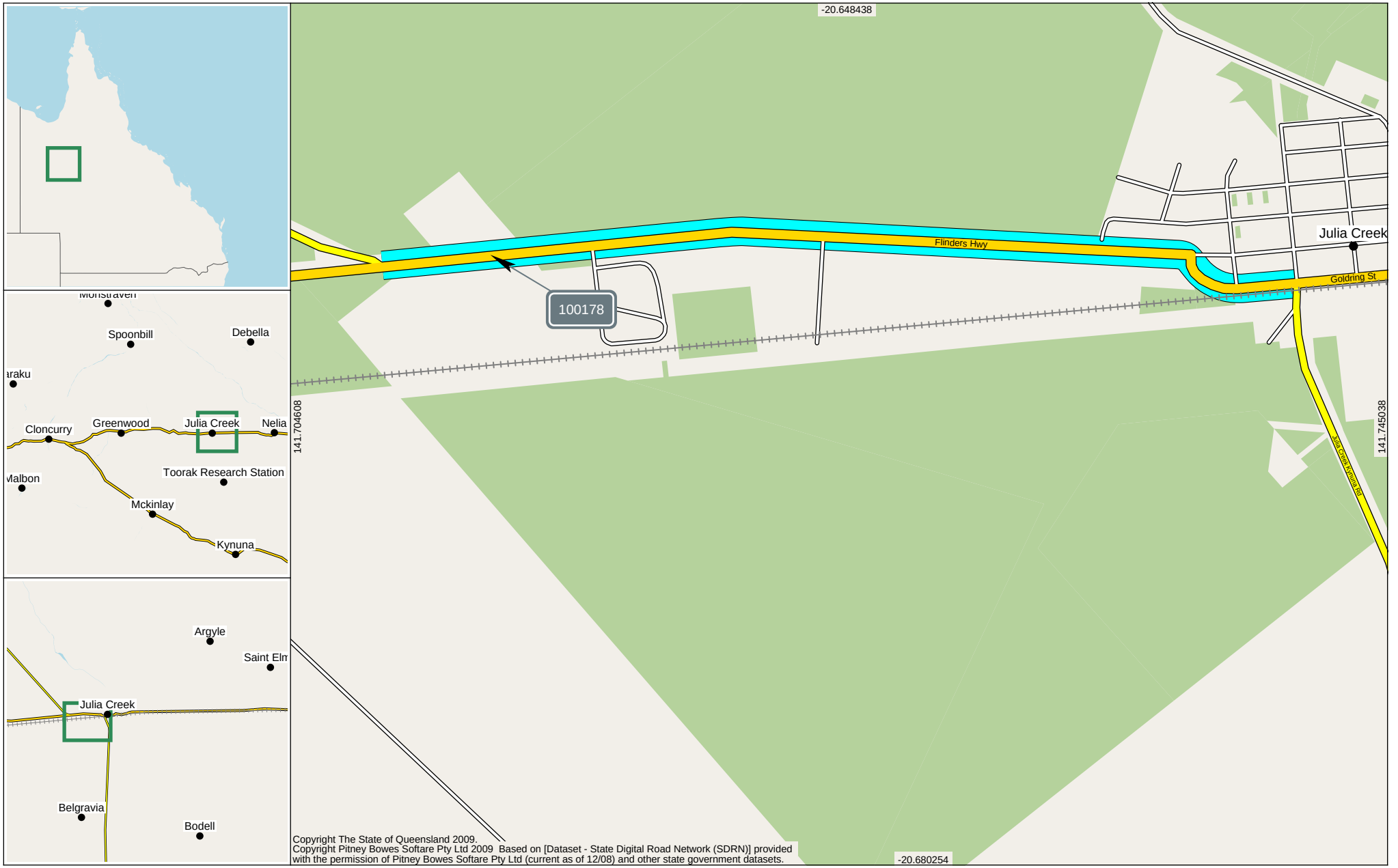
June, 2021

MON	TUE	WED	THU	FRI	SAT	SUN
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				


July, 2021
MON TUE WED THU FRI SAT SUN
1 2 3 4
5 6 7 8 9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30 31
August, 2021
MON TUE WED THU FRI SAT SUN
1
2 3 4 5 6 7 8
9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29
30 31
September, 2021
MON TUE WED THU FRI SAT SUN
1 2 3 4 5
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30
October, 2021
MON TUE WED THU FRI SAT SUN
1 2 3
4 5 6 7 8 9 10
11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30 31
November, 2021
MON TUE WED THU FRI SAT SUN
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30
December, 2021
MON TUE WED THU FRI SAT SUN
1 2 3 4 5
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31

Area 409 - North West District Road Section 14E - FLINDERS HIGHWAY (JULIA CREEK - CLONCURRY)

Road Segment from 0.000km to 3.600km Segment Site 100178 Traffic Year 2019 Data Collection Year 2019



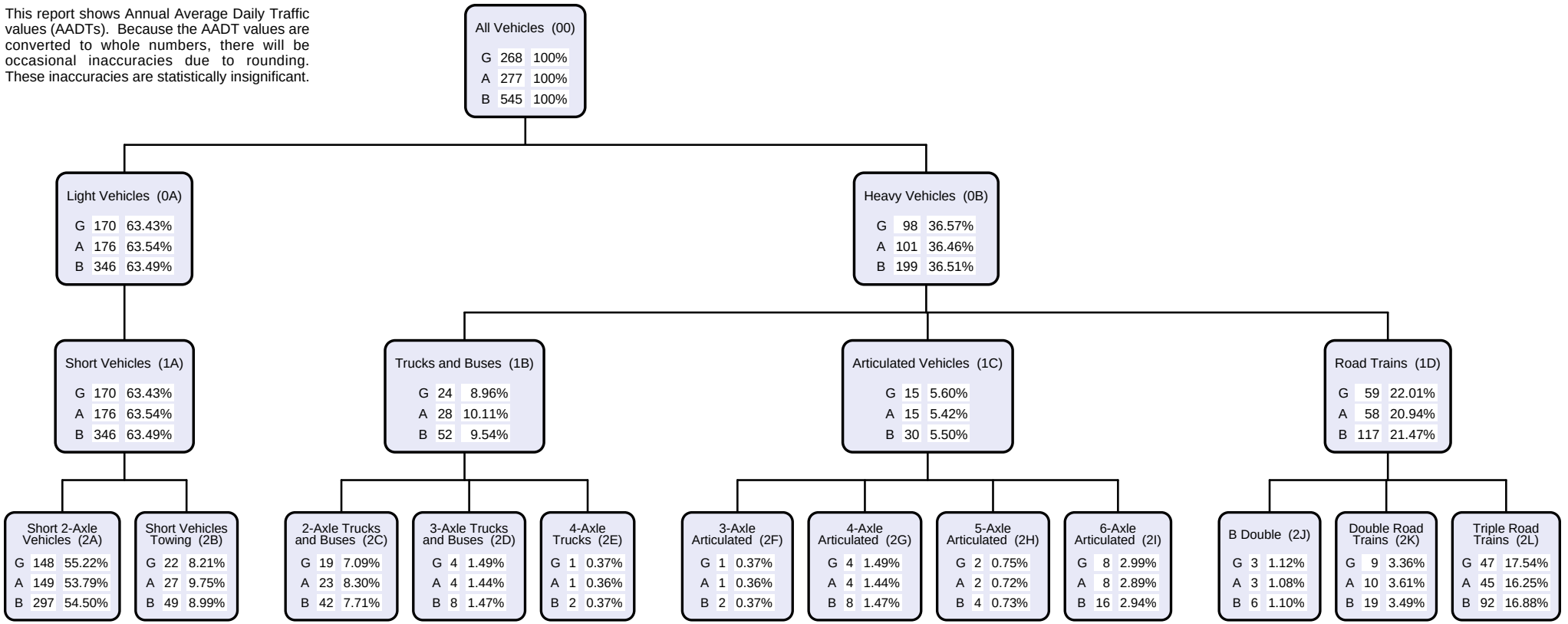
Site 100178. Point 300019674. 3.18km west of Int 14E/14D/5807.
3.18 km

The width of each Road Segment is proportional to its AADT.

0.00 km
Start Point 300000104. Julia Creek.

3.60 km
End Point 300019701. RP2 - Int of 14E/78A.

This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.



AADT Segment Annual Volume Report
Provides summary data for the selected AADT Segment of a Road Section. Summary data is presented as both directional information and a combined bi-directional figure. The data is then broken down by Traffic Class, when available. The report also includes maps displaying the location of both the AADT Segment and the traffic count site.

Annual Average Daily Traffic (AADT)
Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT Segments
The State declared road network is broken into Road Sections and then further broken down into AADT Segments. An AADT Segment is a sub-section of the declared road network where traffic volume is similar along the entire AADT Segment.

Area
For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

District Name	District
Central West District	401
Darling Downs District	402
Far North District	403
Fitzroy District	404
Mackay/Whitsunday District	405
Metropolitian District	406
North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

AADT Values
AADT values are displayed by direction of travel as:

- G Traffic flow in gazettal direction
- A Traffic flow against gazettal direction
- B Traffic flow in both directions

Data Collection Year
Is the most recent year that data was collected at the data collection site.

Please Note:
Due to location and/or departmental policy, some sites are not counted every year.

Gazettal Direction
Is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

Maps
Display the selected location from a range of viewing levels, the start and end position details for the AADT Segment and the location of the traffic count site.

Road Section
Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Segment Site
Is the unique identifier for the traffic count site representing the traffic flow within the AADT Segment.

Site
The physical location of a traffic counting device. Sites are located at a specified Through Distance along a Road Section.

Site Description
The description of the physical location of the traffic counting device.

Start and End Point
The unique identifier for the Through Distance along a Road Section.

Vehicle Class
Traffic is categorised as per the Austroads Vehicle Classification scheme. Traffic classes are in the following hierarchical format:

Volume or All Vehicles
00 = 0A + 0B

Light Vehicles
0A = 1A
1A = 2A + 2B

Heavy Vehicles
0B = 1B + 1C + 1D
1B = 2C + 2D + 2E
1C = 2F + 2G + 2H + 2I
1D = 2J + 2K + 2L

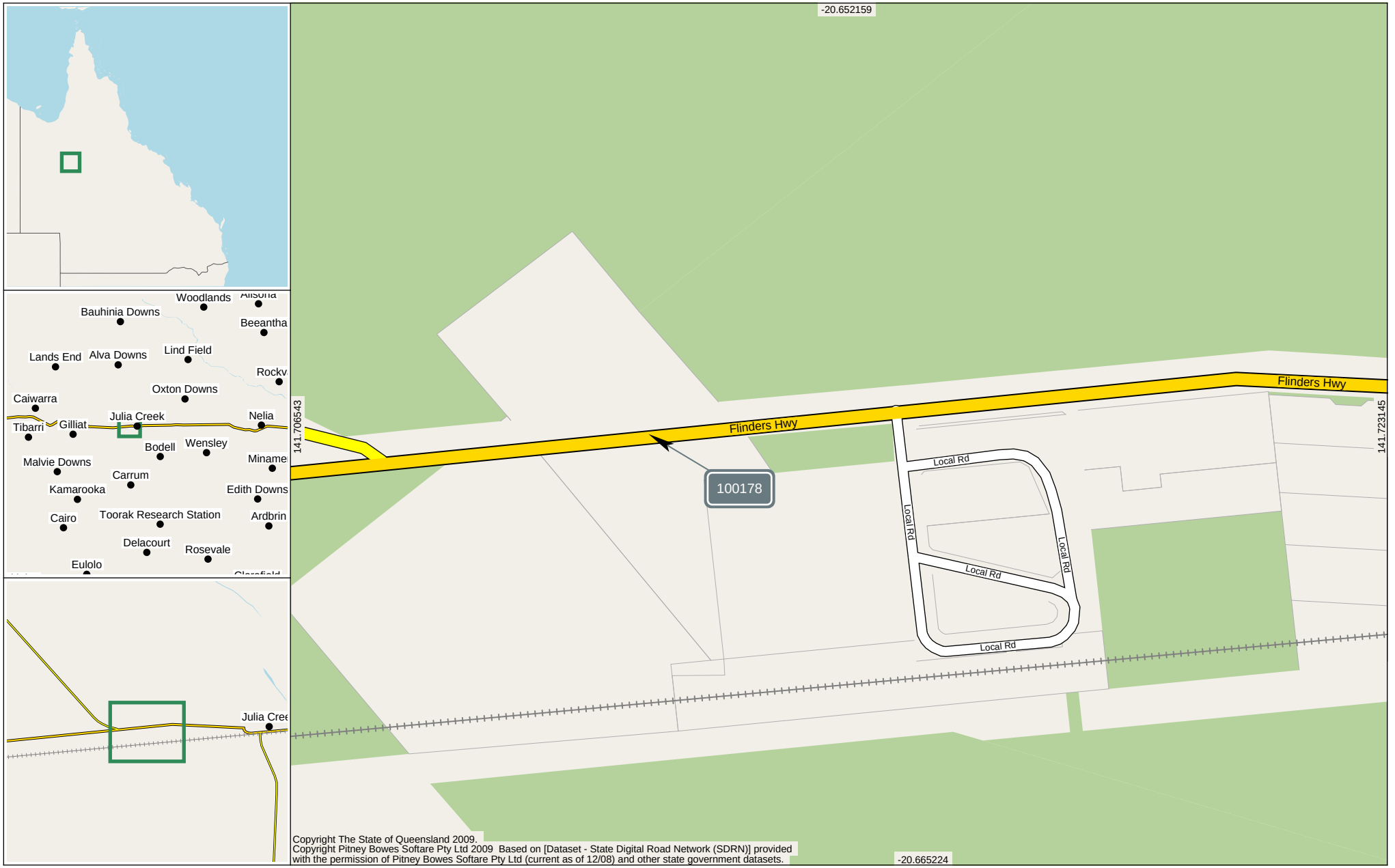
The following classes are the categories for which data can be captured:

Volume
00 All vehicles

2-Bin
0A Light vehicles
0B Heavy vehicles

4-Bin
1A Short vehicles
1B Truck or bus
1C Articulated vehicles
1D Road train

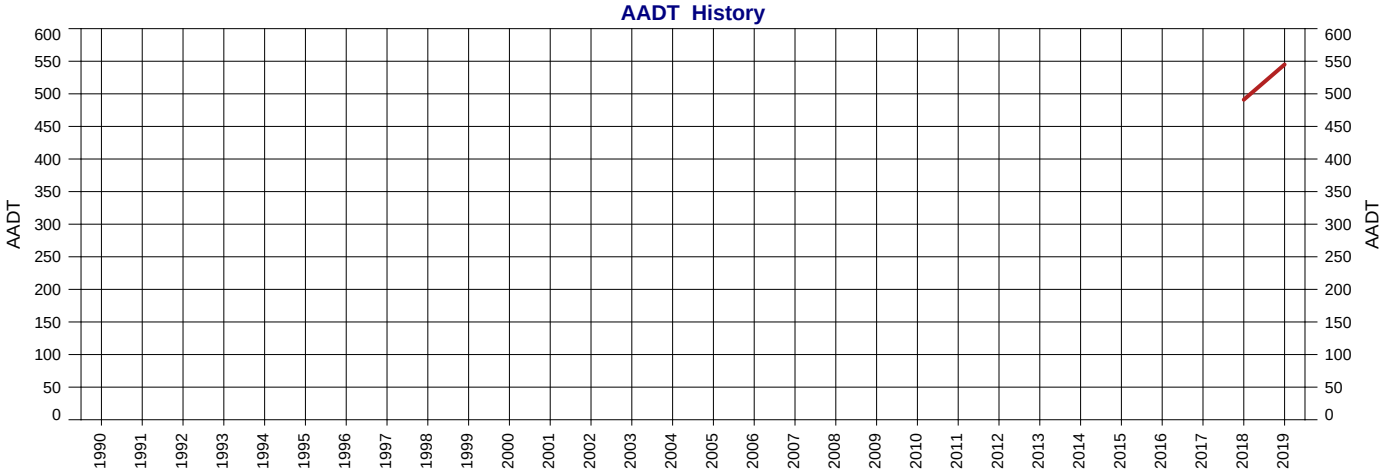
12-Bin
2A Short 2 axle vehicles
2B Short vehicles towing
2C 2 axle truck or bus
2D 3 axle truck or bus
2E 4 axle truck
2F 3 axle articulated vehicle
2G 4 axle articulated vehicle
2H 5 axle articulated vehicle
2I 6 axle articulated vehicle
2J B double
2K Double road train
2L Triple road train



Area	409 - North West District
Road Section	14E - FLINDERS HIGHWAY (JULIA CREEK - CLONCURRY)
Site	100178 - 14E Ch 3.18 West of Int 14E/14D/5807
Thru Dist	3.18
Type	C - Coverage
Stream	TB - Bi-directional traffic flow

Year	2019	Growth last Year	11.00%
AADT	545	Growth last 5 Yrs	
Avg Week Day	566	Growth last 10 Yrs	
Avg Weekend Day	468		

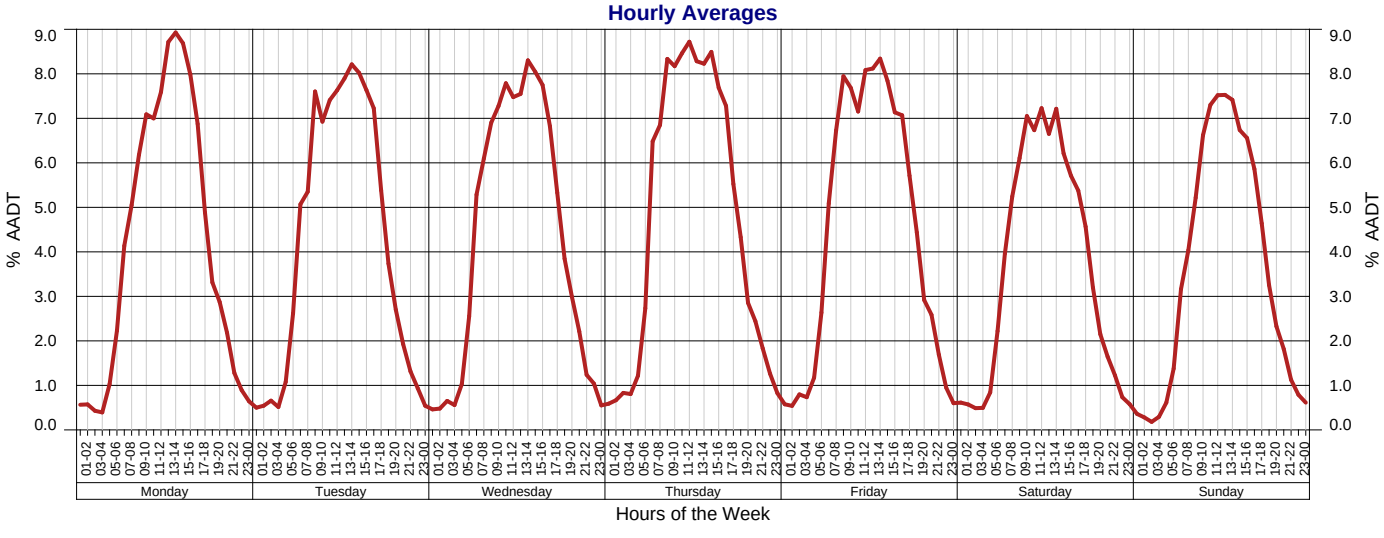
AADT History



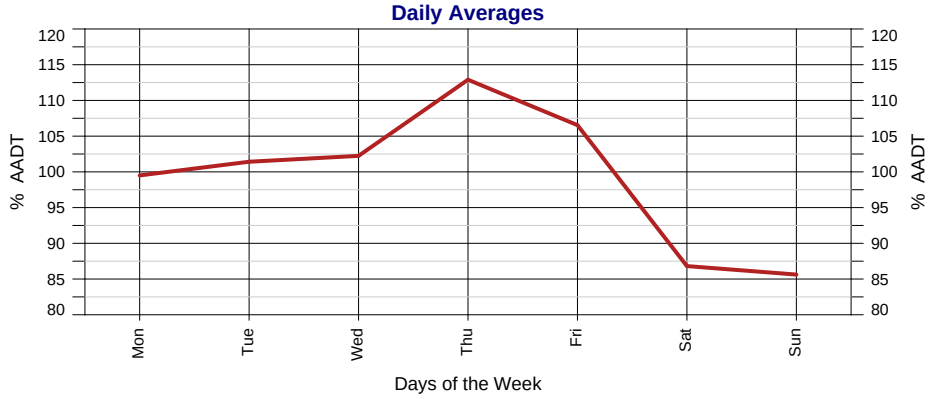
Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2019	545	11.00%		
2018	491			
2017				
2016				
2015				
2014				
2013				
2012				
2011				
2010				
2009				
2008				
2007				
2006				
2005				

Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2004				
2003				
2002				
2001				
2000				
1999				
1998				
1997				
1996				
1995				
1994				
1993				
1992				
1991				
1990				

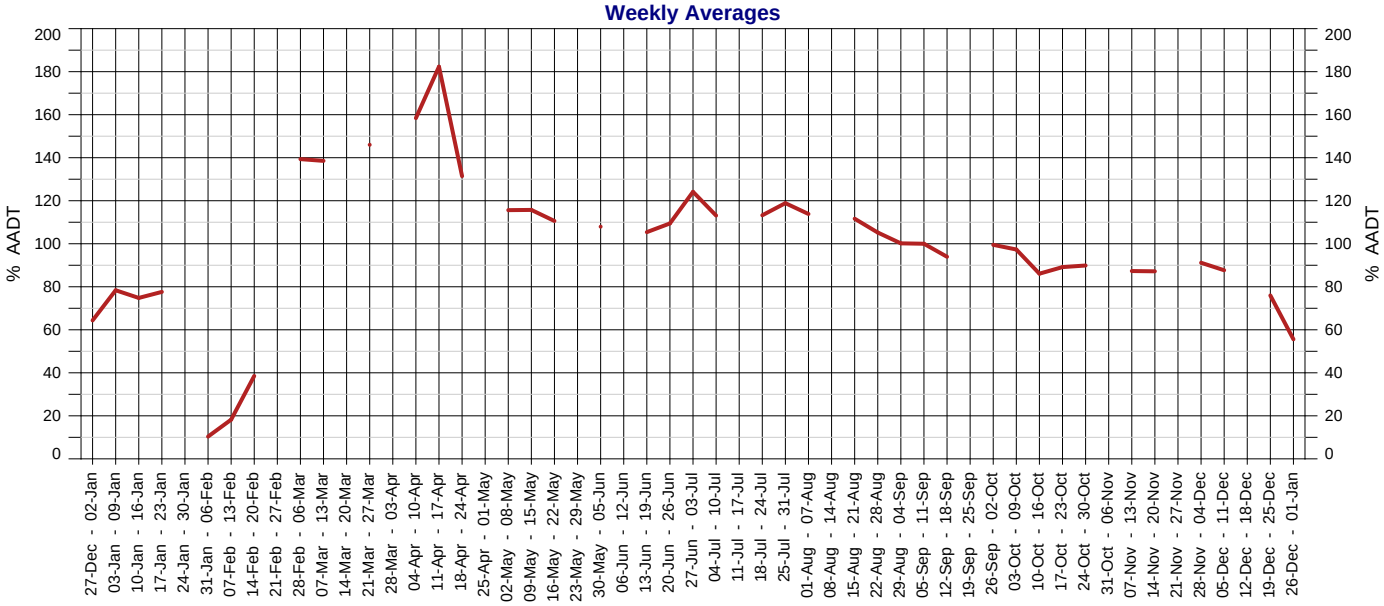
Hourly Averages



Daily Averages



Weekly Averages



2019 Calendar

January

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

February

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

March

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

April

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

May

M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

June

M	T	W	T	F	S	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

July

M	T	W	T	F	S	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

August

M	T	W	T	F	S	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

September

M	T	W	T	F	S	S
30						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

October

M	T	W	T	F	S	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

November

M	T	W	T	F	S	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

December

M	T	W	T	F	S	S
30	31					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

Days on which traffic data was collected.

Annual Volume Report
Displays AADT history with hourly, daily and weekly patterns by Stream in addition to annual data for AADT figures with 1 year, 5 year and 10 year growth rates.

Annual Average Daily Traffic (AADT)
Annual Average Daily Traffic (AADT) is the number of vehicles passing a point on a road in a 24 hour period, averaged over a calendar year.

AADT History
Displays the years when traffic data was collected at this count site.

Area
For administration purposes the Department of Transport and Main Roads has divided Queensland into 12 Districts. The Area field in TSDM reports displays the District Name and Number.

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North Coast District	407
North West District	409
Northern District	408
South Coast District	410
South West District	411
Wide Bay/Burnett District	412

Avg Week Day
Average daily traffic volume during the week days, Monday to Friday.

Avg Weekend Day
Average daily traffic volume during the weekend, Saturday and Sunday.

Calendar
Days on which traffic data was collected are highlighted in green.

Gazettal Direction
The Gazettal Direction is the direction of the traffic flow. It can be easily recognised by referring to the name of the road eg. Road Section: 10A Brisbane - Gympie denotes that the gazettal direction is from Brisbane to Gympie.

- G Traffic flowing in Gazettal Direction
- A Traffic flowing against Gazettal Direction
- B The combined traffic flow in both Directions

Growth Percentage
Represents the increase or decrease in AADT, using a exponential fit over the previous 1, 5 or 10 year period.

Hour, Day & Week Averages
The amount of traffic on the road network will vary depending on the time of day, the day of the week and the week of the year. The ebb and flow of traffic travelling through a site over a period of time forms a pattern. The Hour, Day and Week Averages are then used in the calculation of AADT.

Road Section
Is the Gazetted road from which the traffic data is collected. Each Road Section is given a code, allocated sequentially in Gazettal Direction. Larger roads are broken down into sections and identified by an ID code with a suffix for easier data collection and reporting (eg. 10A, 10B, 10C). Road Sections are then broken into AADT Segments which are determined by traffic volume.

Site
The unique identifier and description of the physical location of a traffic counting device. Sites are located at a Through Distance along a Road Section.

Stream
The lane in which the traffic is travelling in. This report provides data for the combined flow of traffic in both directions.

Thru Dist or TDist
The distance from the beginning of the Road Section, in kilometres.

Type
There are two types of traffic counting sites, Permanent and Coverage. Permanent means the traffic counting device is in place 24/7. Coverage means the traffic counting device is in place for a specified period of time.

Year
Is the current year for the report. Where an AADT Year record is missing a traffic count has not been conducted, for that year.

Queensland Government

Disclaimer:

AADT Site Profiles Report

Filters

14E Ch 3.18 West of Int 14E/14D/5807 | Both Directions | 2020

AADT 486	Growth last Year -10.83% ▼	% of year with data 97%
Week day % of AADT 106.47%	Growth last 5 years N/A	
Weekend day % of AADT 83.83%	Growth last 10 years N/A	

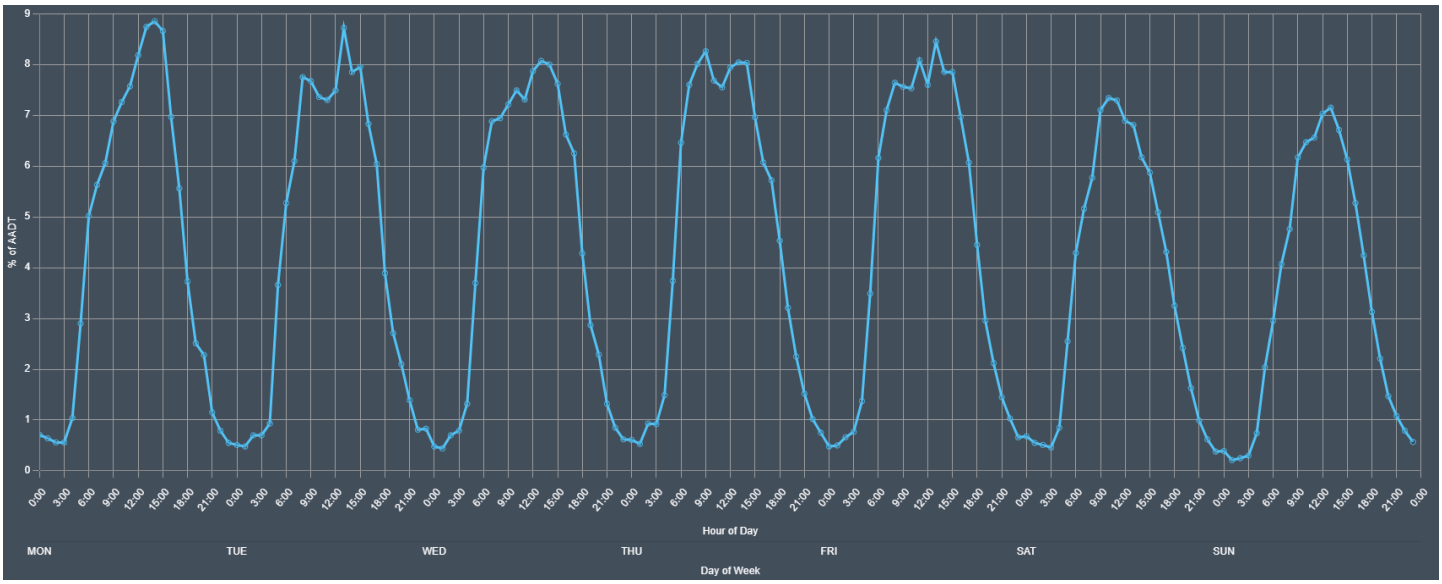
Annual Site Profile

Average Hourly Profile

Year: 2020

Road Section: 14E, FLINDERS HIGHWAY (JULIA CREEK - CLONCURRY)

Site: 100178, 14E Ch 3.18 West of Int 14E/14D/5807, 3.18



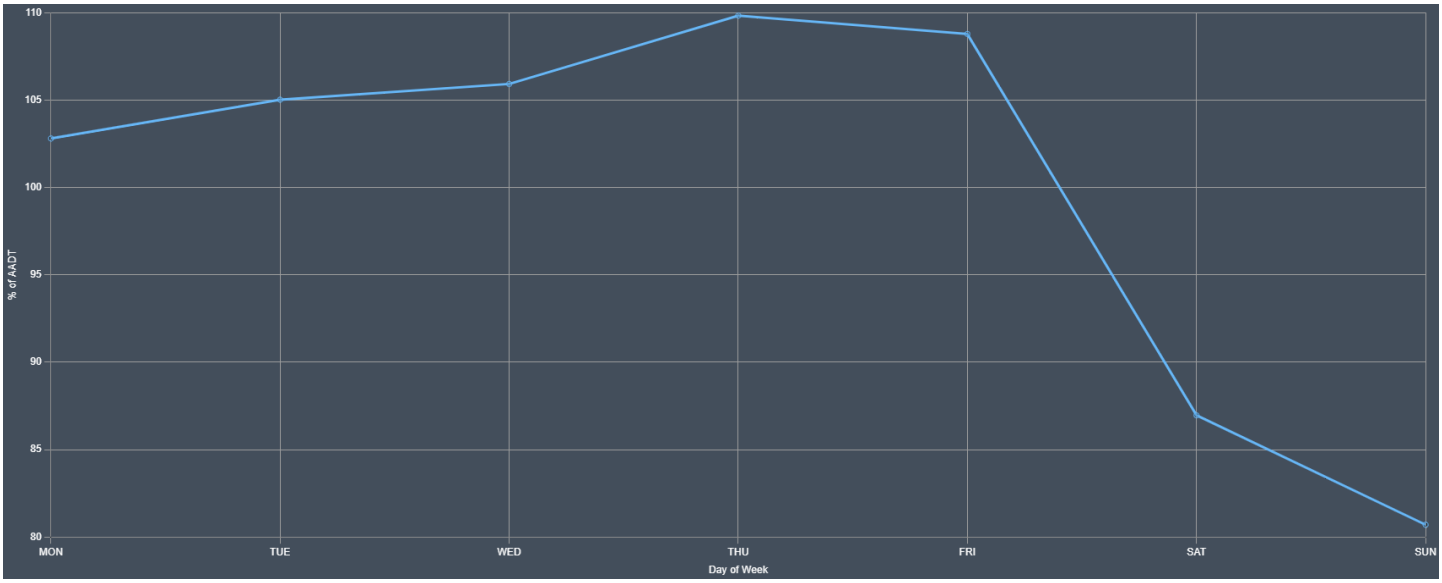
Annual Site Profile

Average Daily Profile

Year: 2020

Road Section: 14E, FLINDERS HIGHWAY (JULIA CREEK - CLONCURRY)

Site: 100178, 14E Ch 3.18 West of Int 14E/14D/5807, 3.18



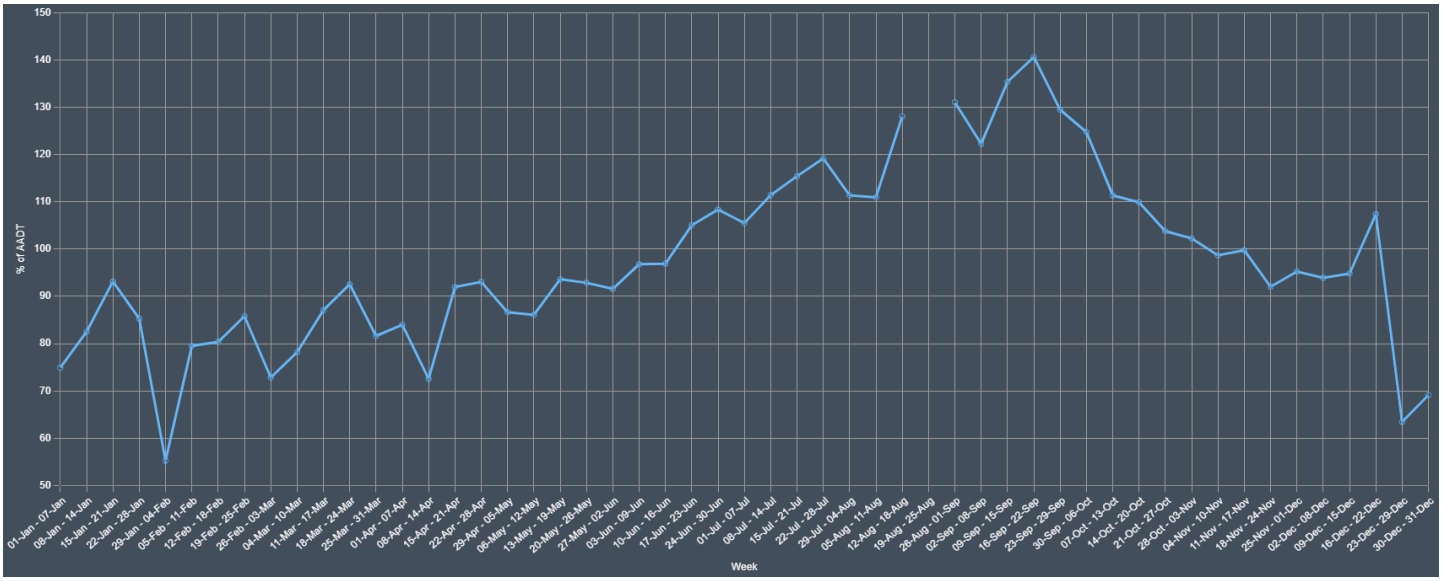
Annual Site Profile

Annual Weekly Profile

Year: 2020

Road Section: 14E, FLINDERS HIGHWAY (JULIA CREEK - CLONCURRY)

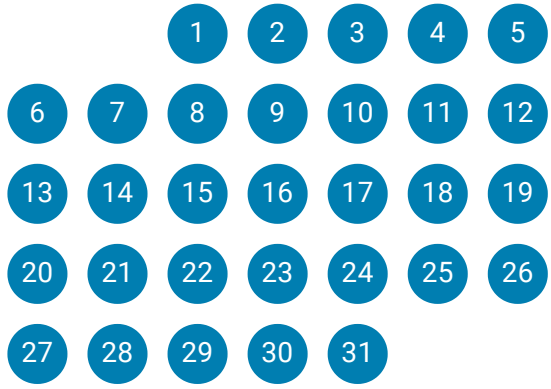
Site: 100178, 14E Ch 3.18 West of Int 14E/14D/5807, 3.18



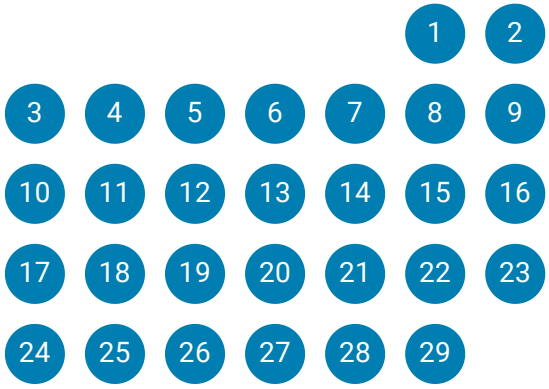
Annual Site Profile

Data Availability

January, 2020

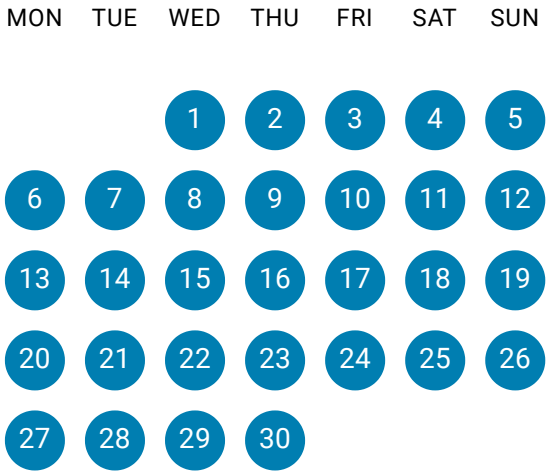


February, 2020

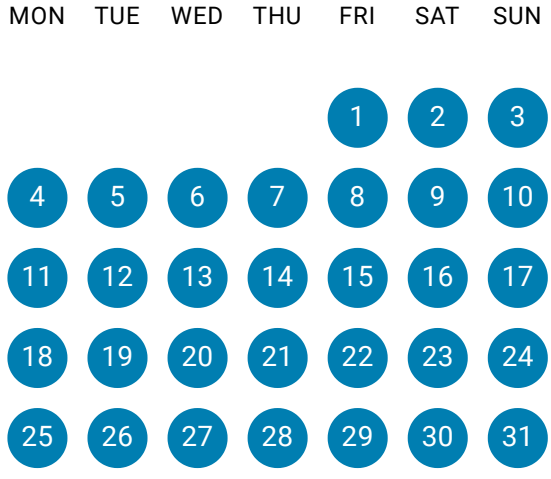


March, 2020

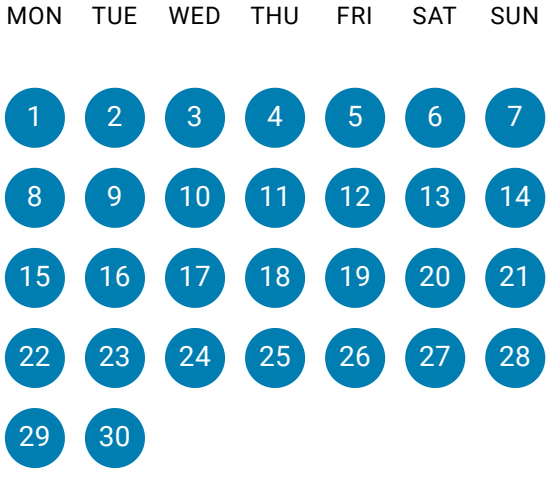
April, 2020



May, 2020



June, 2020



July, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

August, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

September, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

October, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

December, 2020

MON	TUE	WED	THU	FRI	SAT	SUN
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Queensland Government

Disclaimer:

AADT Site Profiles Report

Filters

14E Ch 3.18 West of Int 14E/14D/5807 | Both Directions | 2021

AADT 519	Growth last Year 6.79% ▲	% of year with data 87%
Week day % of AADT 105.65%	Growth last 5 years N/A	
Weekend day % of AADT 85.88%	Growth last 10 years N/A	

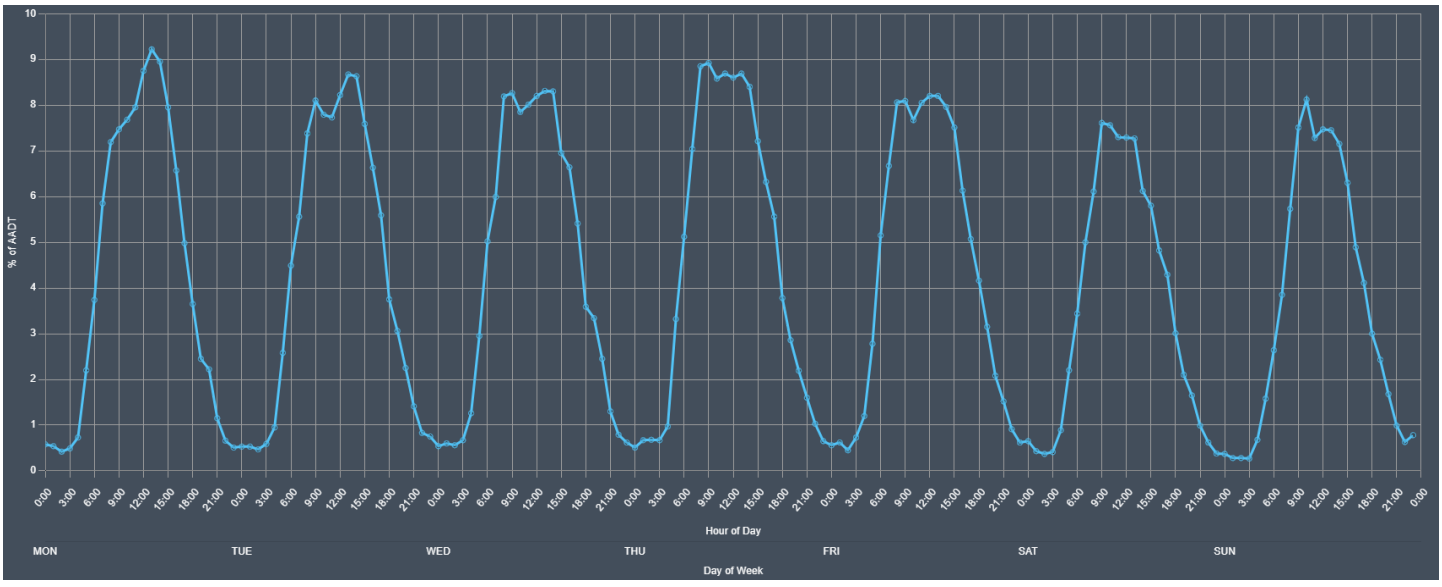
Annual Site Profile

Average Hourly Profile

Year: 0

Road Section: 14E, FLINDERS HIGHWAY (JULIA CREEK - CLONCURRY)

Site: 100178, 14E Ch 3.18 West of Int 14E/14D/5807, 3.18



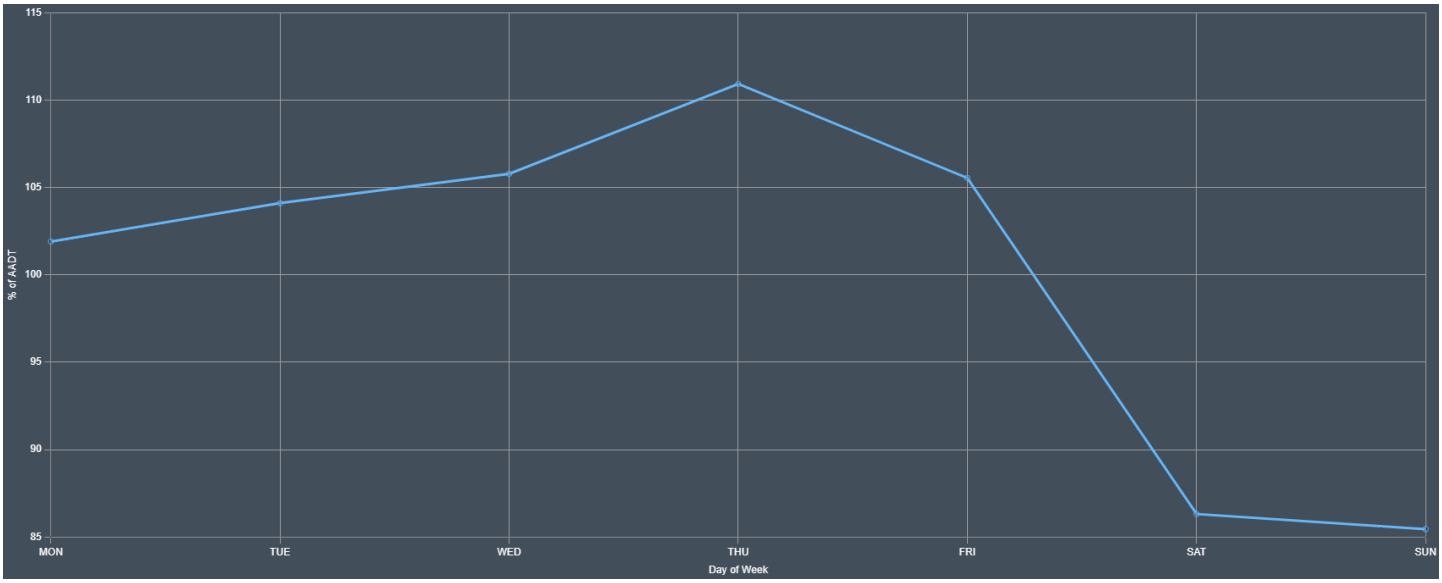
Annual Site Profile

Average Daily Profile

Year: 0

Road Section: 14E, FLINDERS HIGHWAY (JULIA CREEK - CLONCURRY)

Site: 100178, 14E Ch 3.18 West of Int 14E/14D/5807, 3.18



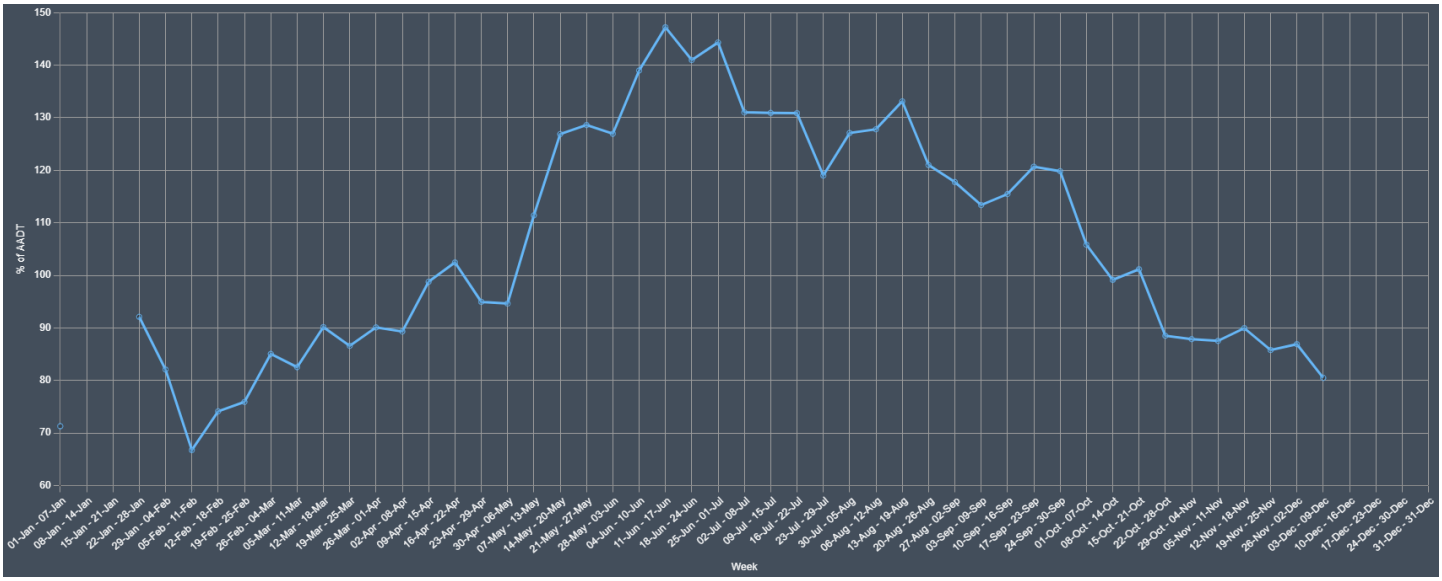
Annual Site Profile

Annual Weekly Profile

Year: 0

Road Section: 14E, FLINDERS HIGHWAY (JULIA CREEK - CLONCURRY)

Site: 100178, 14E Ch 3.18 West of Int 14E/14D/5807, 3.18



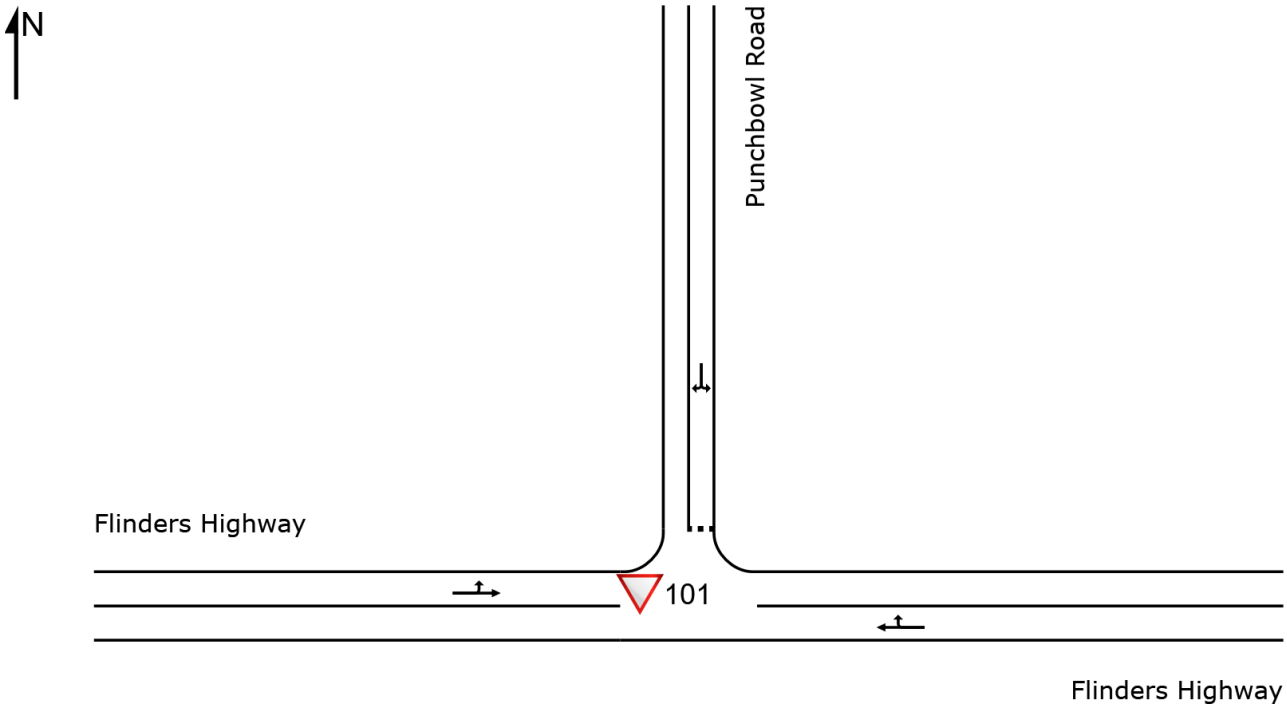
Appendix C – SIDRA Output

SITE LAYOUT

Site: 101 [Flinders Highway and Punchbowl Road 2023 AM (Site Folder: Flinders Highway and Punchbowl Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Flinders Highway and Punchbowl Road 2023 AM (Site Folder: Flinders Highway and Punchbowl Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Flinders Highway														
5	T1	14	28.6	15	28.6	0.009	0.0	LOS A	0.0	0.1	0.02	0.04	0.02	59.4
6	R2	1	0.0	1	0.0	0.009	5.5	LOS A	0.0	0.1	0.02	0.04	0.02	57.0
Approach		15	26.7	16	26.7	0.009	0.4	NA	0.0	0.1	0.02	0.04	0.02	59.3
North: Punchbowl Road														
7	L2	2	100.0	2	100.0	0.004	6.9	LOS A	0.0	0.2	0.13	0.55	0.13	48.3
9	R2	2	50.0	2	50.0	0.004	6.3	LOS A	0.0	0.2	0.13	0.55	0.13	49.5
Approach		4	75.0	4	75.0	0.004	6.6	LOS A	0.0	0.2	0.13	0.55	0.13	48.9
West: Flinders Highway														
10	L2	1	0.0	1	0.0	0.019	5.5	LOS A	0.0	0.0	0.00	0.02	0.00	58.0
11	T1	29	34.5	31	34.5	0.019	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach		30	33.3	32	33.3	0.019	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
All Vehicles		49	34.7	52	34.7	0.019	0.8	NA	0.0	0.2	0.02	0.07	0.02	58.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Flinders Highway and Punchbowl Road 2023 PM (Site Folder: Flinders Highway and Punchbowl Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Flinders Highway														
5	T1	19	15.8	20	15.8	0.012	0.0	LOS A	0.0	0.0	0.01	0.03	0.01	59.6
6	R2	1	0.0	1	0.0	0.012	5.5	LOS A	0.0	0.0	0.01	0.03	0.01	57.2
Approach		20	15.0	21	15.0	0.012	0.3	NA	0.0	0.0	0.01	0.03	0.01	59.5
North: Punchbowl Road														
7	L2	1	0.0	1	0.0	0.002	5.6	LOS A	0.0	0.1	0.09	0.56	0.09	53.1
9	R2	2	0.0	2	0.0	0.002	5.6	LOS A	0.0	0.1	0.09	0.56	0.09	52.5
Approach		3	0.0	3	0.0	0.002	5.6	LOS A	0.0	0.1	0.09	0.56	0.09	52.7
West: Flinders Highway														
10	L2	8	0.0	8	0.0	0.018	5.5	LOS A	0.0	0.0	0.00	0.17	0.00	56.1
11	T1	20	45.0	21	45.0	0.018	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	57.8
Approach		28	32.1	29	32.1	0.018	1.6	NA	0.0	0.0	0.00	0.17	0.00	57.3
All Vehicles		51	23.5	54	23.5	0.018	1.3	NA	0.0	0.1	0.01	0.14	0.01	57.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Flinders Highway and Punchbowl Road 2025 AM Background (Site Folder: Flinders Highway and Punchbowl Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Flinders Highway														
5	T1	15	26.6	16	26.6	0.010	0.0	LOS A	0.0	0.1	0.02	0.04	0.02	59.5
6	R2	1	0.0	1	0.0	0.010	5.5	LOS A	0.0	0.1	0.02	0.04	0.02	57.1
Approach		16	24.9	17	24.9	0.010	0.4	NA	0.0	0.1	0.02	0.04	0.02	59.3
North: Punchbowl Road														
7	L2	2	100.0	2	100.0	0.004	6.9	LOS A	0.0	0.2	0.13	0.54	0.13	48.3
9	R2	2	50.0	2	50.0	0.004	6.3	LOS A	0.0	0.2	0.13	0.54	0.13	49.5
Approach		4	75.0	4	75.0	0.004	6.6	LOS A	0.0	0.2	0.13	0.54	0.13	48.9
West: Flinders Highway														
10	L2	1	0.0	1	0.0	0.020	5.5	LOS A	0.0	0.0	0.00	0.02	0.00	58.0
11	T1	30	34.0	32	34.0	0.020	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.7
Approach		31	32.9	33	32.9	0.020	0.2	NA	0.0	0.0	0.00	0.02	0.00	59.7
All Vehicles		51	33.7	54	33.7	0.020	0.7	NA	0.0	0.2	0.01	0.07	0.01	58.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Flinders Highway and Punchbowl Road 2025 PM Background (Site Folder: Flinders Highway and Punchbowl Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Flinders Highway														
5	T1	20	15.8	21	15.8	0.012	0.0	LOS A	0.0	0.0	0.01	0.03	0.01	59.6
6	R2	1	0.0	1	0.0	0.012	5.5	LOS A	0.0	0.0	0.01	0.03	0.01	57.2
Approach		21	15.0	22	15.0	0.012	0.3	NA	0.0	0.0	0.01	0.03	0.01	59.5
North: Punchbowl Road														
7	L2	1	0.0	1	0.0	0.002	5.6	LOS A	0.0	0.1	0.10	0.56	0.10	53.1
9	R2	2	0.0	2	0.0	0.002	5.6	LOS A	0.0	0.1	0.10	0.56	0.10	52.5
Approach		3	0.0	3	0.0	0.002	5.6	LOS A	0.0	0.1	0.10	0.56	0.10	52.7
West: Flinders Highway														
10	L2	8	0.0	8	0.0	0.019	5.5	LOS A	0.0	0.0	0.00	0.16	0.00	56.1
11	T1	21	45.0	22	45.0	0.019	0.0	LOS A	0.0	0.0	0.00	0.16	0.00	57.8
Approach		29	32.6	31	32.6	0.019	1.5	NA	0.0	0.0	0.00	0.16	0.00	57.4
All Vehicles		53	23.8	56	23.8	0.019	1.3	NA	0.0	0.1	0.01	0.13	0.01	57.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Flinders Highway and Punchbowl Road 2025 AM Construction (Site Folder: Flinders Highway and Punchbowl Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Flinders Highway														
5	T1	15	26.6	16	26.6	0.031	0.1	LOS A	0.1	1.1	0.14	0.40	0.14	55.7
6	R2	36	2.0	38	2.0	0.031	5.6	LOS A	0.1	1.1	0.14	0.40	0.14	53.3
Approach		51	9.2	54	9.2	0.031	4.0	NA	0.1	1.1	0.14	0.40	0.14	54.0
North: Punchbowl Road														
7	L2	37	7.0	39	7.0	0.042	5.7	LOS A	0.2	1.2	0.11	0.56	0.11	52.7
9	R2	18	8.0	19	8.0	0.042	5.9	LOS A	0.2	1.2	0.11	0.56	0.11	52.0
Approach		55	7.3	58	7.3	0.042	5.8	LOS A	0.2	1.2	0.11	0.56	0.11	52.5
West: Flinders Highway														
10	L2	16	2.0	17	2.0	0.029	5.6	LOS A	0.0	0.0	0.00	0.21	0.00	55.9
11	T1	30	34.0	32	34.0	0.029	0.0	LOS A	0.0	0.0	0.00	0.21	0.00	57.7
Approach		46	22.9	48	22.9	0.029	1.9	NA	0.0	0.0	0.00	0.21	0.00	57.0
All Vehicles		152	12.7	160	12.7	0.042	4.0	NA	0.2	1.2	0.09	0.40	0.09	54.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Flinders Highway and Punchbowl Road 2025 PM Construction (Site Folder: Flinders Highway and Punchbowl Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Flinders Highway														
5	T1	20	16.0	21	16.0	0.033	0.1	LOS A	0.1	1.1	0.13	0.36	0.13	56.1
6	R2	35	2.0	37	2.0	0.033	5.6	LOS A	0.1	1.1	0.13	0.36	0.13	53.7
Approach		55	7.1	58	7.1	0.033	3.6	NA	0.1	1.1	0.13	0.36	0.13	54.6
North: Punchbowl Road														
7	L2	35	2.0	37	2.0	0.039	5.6	LOS A	0.1	1.0	0.09	0.56	0.09	53.0
9	R2	18	2.0	19	2.0	0.039	5.8	LOS A	0.1	1.0	0.09	0.56	0.09	52.4
Approach		53	2.0	56	2.0	0.039	5.7	LOS A	0.1	1.0	0.09	0.56	0.09	52.8
West: Flinders Highway														
10	L2	24	1.0	25	1.0	0.028	5.6	LOS A	0.0	0.0	0.00	0.31	0.00	54.8
11	T1	21	45.0	22	45.0	0.028	0.0	LOS A	0.0	0.0	0.00	0.31	0.00	56.5
Approach		45	21.5	47	21.5	0.028	3.0	NA	0.0	0.0	0.00	0.31	0.00	55.6
All Vehicles		153	9.6	161	9.6	0.039	4.1	NA	0.1	1.1	0.08	0.42	0.08	54.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Flinders Highway and Punchbowl Road 2025 AM Operation (Site Folder: Flinders Highway and Punchbowl Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Flinders Highway														
5	T1	15	26.6	16	26.6	0.023	0.1	LOS A	0.1	0.8	0.12	0.35	0.12	56.2
6	R2	23	4.3	24	4.3	0.023	5.6	LOS A	0.1	0.8	0.12	0.35	0.12	53.7
Approach		38	13.1	40	13.1	0.023	3.5	NA	0.1	0.8	0.12	0.35	0.12	54.7
North: Punchbowl Road														
7	L2	24	7.0	25	7.0	0.027	5.7	LOS A	0.1	0.8	0.11	0.55	0.11	52.7
9	R2	12	8.0	13	8.0	0.027	5.8	LOS A	0.1	0.8	0.11	0.55	0.11	52.0
Approach		36	7.3	38	7.3	0.027	5.8	LOS A	0.1	0.8	0.11	0.55	0.11	52.5
West: Flinders Highway														
10	L2	10	0.0	11	0.0	0.025	5.5	LOS A	0.0	0.0	0.00	0.15	0.00	56.5
11	T1	30	34.5	32	34.5	0.025	0.0	LOS A	0.0	0.0	0.00	0.15	0.00	58.2
Approach		40	25.9	42	25.9	0.025	1.4	NA	0.0	0.0	0.00	0.15	0.00	57.8
All Vehicles		114	15.8	120	15.8	0.027	3.5	NA	0.1	0.8	0.07	0.34	0.07	55.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Flinders Highway and Punchbowl Road 2025 PM Operation (Site Folder: Flinders Highway and Punchbowl Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Flinders Highway														
5	T1	20	16.0	21	16.0	0.025	0.1	LOS A	0.1	0.8	0.11	0.30	0.11	56.7
6	R2	22	2.0	23	2.0	0.025	5.6	LOS A	0.1	0.8	0.11	0.30	0.11	54.3
Approach		42	8.7	44	8.7	0.025	3.0	NA	0.1	0.8	0.11	0.30	0.11	55.5
North: Punchbowl Road														
7	L2	22	2.0	23	2.0	0.025	5.6	LOS A	0.1	0.7	0.09	0.56	0.09	53.0
9	R2	12	2.0	13	2.0	0.025	5.7	LOS A	0.1	0.7	0.09	0.56	0.09	52.4
Approach		34	2.0	36	2.0	0.025	5.7	LOS A	0.1	0.7	0.09	0.56	0.09	52.8
West: Flinders Highway														
10	L2	18	1.0	19	1.0	0.025	5.6	LOS A	0.0	0.0	0.00	0.27	0.00	55.1
11	T1	21	45.0	22	45.0	0.025	0.0	LOS A	0.0	0.0	0.00	0.27	0.00	56.8
Approach		39	24.7	41	24.7	0.025	2.6	NA	0.0	0.0	0.00	0.27	0.00	56.1
All Vehicles		115	12.1	121	12.1	0.025	3.6	NA	0.1	0.8	0.07	0.37	0.07	54.8

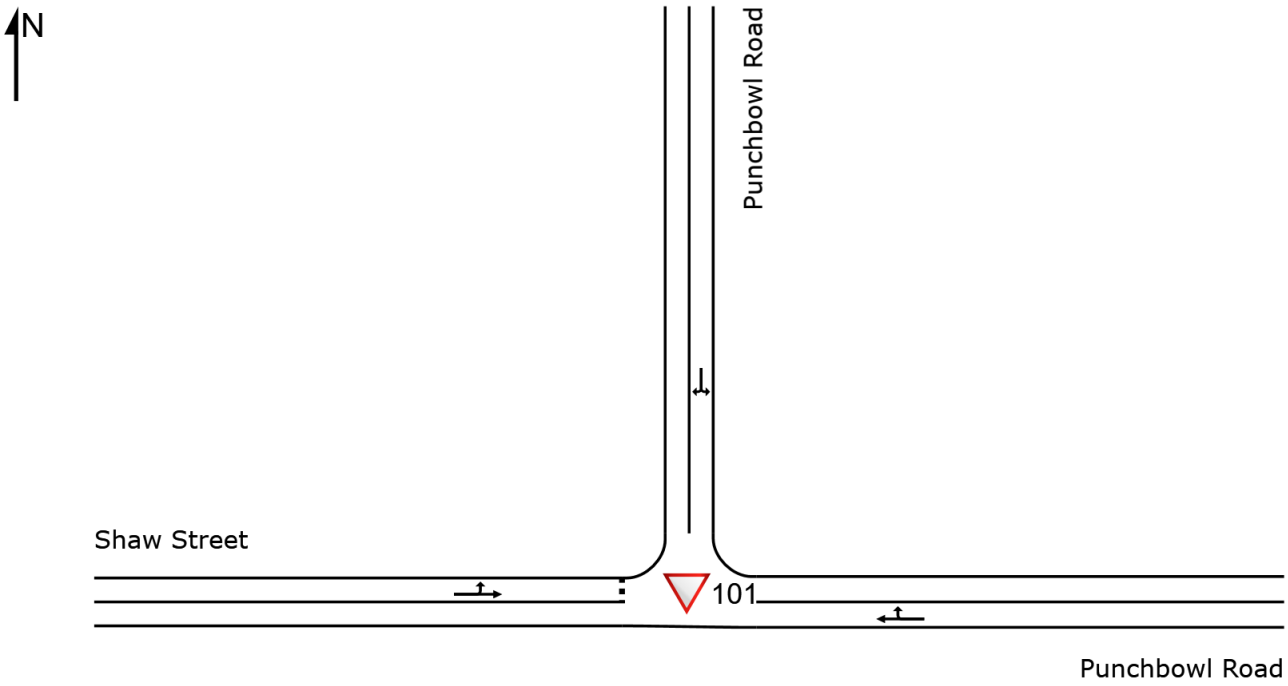
Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Punchbowl Road and Shaw Street 2023 AM (Site Folder: Punchbowl Road and Shaw Street)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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MOVEMENT SUMMARY

Site: 101 [Punchbowl Road and Shaw Street 2023 AM (Site Folder: Punchbowl Road and Shaw Street)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Punchbowl Road														
5	T1	1	100.0	1	100.0	0.007	0.0	LOS A	0.0	0.3	0.02	0.56	0.02	55.3
6	R2	9	33.3	9	33.3	0.007	6.1	LOS A	0.0	0.3	0.02	0.56	0.02	51.4
Approach		10	40.0	11	40.0	0.007	5.5	NA	0.0	0.3	0.02	0.56	0.02	51.8
North: Punchbowl Road														
7	L2	1	0.0	1	0.0	0.002	5.5	LOS A	0.0	0.1	0.02	0.59	0.02	52.7
9	R2	1	100.0	1	100.0	0.002	7.0	LOS A	0.0	0.1	0.02	0.59	0.02	48.0
Approach		2	50.0	2	50.0	0.002	6.3	NA	0.0	0.1	0.02	0.59	0.02	50.2
West: Shaw Street														
10	L2	2	50.0	2	50.0	0.002	6.2	LOS A	0.0	0.1	0.06	0.53	0.06	51.9
11	T1	1	0.0	1	0.0	0.002	4.2	LOS A	0.0	0.1	0.06	0.53	0.06	53.9
Approach		3	33.3	3	33.3	0.002	5.5	LOS A	0.0	0.1	0.06	0.53	0.06	52.5
All Vehicles		15	40.0	16	40.0	0.007	5.6	NA	0.0	0.3	0.03	0.56	0.03	51.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Punchbowl Road and Shaw Street 2023 PM (Site Folder: Punchbowl Road and Shaw Street)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Punchbowl Road														
5	T1	1	0.0	1	0.0	0.002	0.0	LOS A	0.0	0.1	0.04	0.47	0.04	55.7
6	R2	3	0.0	3	0.0	0.002	5.7	LOS A	0.0	0.1	0.04	0.47	0.04	53.5
Approach		4	0.0	4	0.0	0.002	4.3	NA	0.0	0.1	0.04	0.47	0.04	54.0
North: Punchbowl Road														
7	L2	1	0.0	1	0.0	0.005	5.5	LOS A	0.0	0.2	0.01	0.62	0.01	53.1
9	R2	7	14.3	7	14.3	0.005	5.9	LOS A	0.0	0.2	0.01	0.62	0.01	52.1
Approach		8	12.5	8	12.5	0.005	5.9	NA	0.0	0.2	0.01	0.62	0.01	52.2
West: Shaw Street														
10	L2	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.03	0.54	0.03	54.1
11	T1	1	0.0	1	0.0	0.001	4.2	LOS A	0.0	0.0	0.03	0.54	0.03	54.0
Approach		2	0.0	2	0.0	0.001	4.9	LOS A	0.0	0.0	0.03	0.54	0.03	54.0
All Vehicles		14	7.1	15	7.1	0.005	5.3	NA	0.0	0.2	0.02	0.56	0.02	53.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Punchbowl Road and Shaw Street 2025 AM Background (Site Folder: Punchbowl Road and Shaw Street)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Punchbowl Road														
5	T1	1	100.0	1	100.0	0.007	0.0	LOS A	0.0	0.3	0.02	0.56	0.02	55.3
6	R2	9	33.3	9	33.3	0.007	6.1	LOS A	0.0	0.3	0.02	0.56	0.02	51.4
Approach		10	40.0	11	40.0	0.007	5.5	NA	0.0	0.3	0.02	0.56	0.02	51.8
North: Punchbowl Road														
7	L2	1	0.0	1	0.0	0.002	5.5	LOS A	0.0	0.1	0.02	0.59	0.02	52.7
9	R2	1	100.0	1	100.0	0.002	7.0	LOS A	0.0	0.1	0.02	0.59	0.02	48.0
Approach		2	50.0	2	50.0	0.002	6.3	NA	0.0	0.1	0.02	0.59	0.02	50.2
West: Shaw Street														
10	L2	2	50.0	2	50.0	0.002	6.2	LOS A	0.0	0.1	0.06	0.53	0.06	51.9
11	T1	1	0.0	1	0.0	0.002	4.2	LOS A	0.0	0.1	0.06	0.53	0.06	53.9
Approach		3	33.3	3	33.3	0.002	5.5	LOS A	0.0	0.1	0.06	0.53	0.06	52.5
All Vehicles		15	40.0	16	40.0	0.007	5.6	NA	0.0	0.3	0.03	0.56	0.03	51.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Punchbowl Road and Shaw Street 2025 PM Background (Site Folder: Punchbowl Road and Shaw Street)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Punchbowl Road														
5	T1	1	0.0	1	0.0	0.002	0.0	LOS A	0.0	0.1	0.04	0.47	0.04	55.7
6	R2	3	0.0	3	0.0	0.002	5.7	LOS A	0.0	0.1	0.04	0.47	0.04	53.5
Approach		4	0.0	4	0.0	0.002	4.3	NA	0.0	0.1	0.04	0.47	0.04	54.0
North: Punchbowl Road														
7	L2	1	0.0	1	0.0	0.005	5.5	LOS A	0.0	0.2	0.01	0.62	0.01	53.1
9	R2	7	14.3	7	14.3	0.005	5.9	LOS A	0.0	0.2	0.01	0.62	0.01	52.1
Approach		8	12.5	8	12.5	0.005	5.9	NA	0.0	0.2	0.01	0.62	0.01	52.2
West: Shaw Street														
10	L2	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.03	0.54	0.03	54.1
11	T1	1	0.0	1	0.0	0.001	4.2	LOS A	0.0	0.0	0.03	0.54	0.03	54.0
Approach		2	0.0	2	0.0	0.001	4.9	LOS A	0.0	0.0	0.03	0.54	0.03	54.0
All Vehicles		14	7.1	15	7.1	0.005	5.3	NA	0.0	0.2	0.02	0.56	0.02	53.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Punchbowl Road and Shaw Street 2025 AM Construction (Site Folder: Punchbowl Road and Shaw Street)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Punchbowl Road														
5	T1	1	100.0	1	100.0	0.036	0.0	LOS A	0.2	1.3	0.01	0.61	0.01	54.7
6	R2	59	7.0	62	7.0	0.036	5.8	LOS A	0.2	1.3	0.01	0.61	0.01	52.2
Approach		60	8.6	63	8.6	0.036	5.7	NA	0.2	1.3	0.01	0.61	0.01	52.2
North: Punchbowl Road														
7	L2	50	2.0	53	2.0	0.031	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.2
9	R2	1	0.0	1	0.0	0.031	5.7	LOS A	0.0	0.0	0.00	0.58	0.00	52.9
Approach		51	2.0	54	2.0	0.031	5.6	NA	0.0	0.0	0.00	0.58	0.00	53.2
West: Shaw Street														
10	L2	2	50.0	2	50.0	0.003	6.4	LOS A	0.0	0.1	0.17	0.51	0.17	51.6
11	T1	1	0.0	1	0.0	0.003	4.5	LOS A	0.0	0.1	0.17	0.51	0.17	53.5
Approach		3	33.3	3	33.3	0.003	5.8	LOS A	0.0	0.1	0.17	0.51	0.17	52.2
All Vehicles		114	6.3	120	6.3	0.036	5.6	NA	0.2	1.3	0.01	0.59	0.01	52.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Punchbowl Road and Shaw Street 2025 PM Construction (Site Folder: Punchbowl Road and Shaw Street)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Punchbowl Road														
5	T1	1	0.0	1	0.0	0.032	0.0	LOS A	0.1	1.0	0.04	0.60	0.04	54.6
6	R2	53	2.0	56	2.0	0.032	5.7	LOS A	0.1	1.0	0.04	0.60	0.04	52.3
Approach		54	2.0	57	2.0	0.032	5.6	NA	0.1	1.0	0.04	0.60	0.04	52.4
North: Punchbowl Road														
7	L2	50	2.0	53	2.0	0.035	5.6	LOS A	0.0	0.3	0.00	0.58	0.00	53.2
9	R2	7	14.0	7	14.0	0.035	5.9	LOS A	0.0	0.3	0.00	0.58	0.00	52.2
Approach		57	3.5	60	3.5	0.035	5.6	NA	0.0	0.3	0.00	0.58	0.00	53.1
West: Shaw Street														
10	L2	1	0.0	1	0.0	0.002	5.7	LOS A	0.0	0.0	0.15	0.51	0.15	53.7
11	T1	1	0.0	1	0.0	0.002	4.5	LOS A	0.0	0.0	0.15	0.51	0.15	53.6
Approach		2	0.0	2	0.0	0.002	5.1	LOS A	0.0	0.0	0.15	0.51	0.15	53.7
All Vehicles		113	2.7	119	2.7	0.035	5.6	NA	0.1	1.0	0.03	0.59	0.03	52.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Punchbowl Road and Shaw Street 2025 AM Operation (Site Folder: Punchbowl Road and Shaw Street)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Punchbowl Road														
5	T1	1	100.0	1	100.0	0.026	0.0	LOS A	0.1	0.9	0.01	0.61	0.01	54.7
6	R2	41	9.0	43	9.0	0.026	5.8	LOS A	0.1	0.9	0.01	0.61	0.01	52.1
Approach		42	11.2	44	11.2	0.026	5.7	NA	0.1	0.9	0.01	0.61	0.01	52.2
North: Punchbowl Road														
7	L2	31	4.5	33	4.5	0.019	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.1
9	R2	1	0.0	1	0.0	0.019	5.7	LOS A	0.0	0.0	0.00	0.58	0.00	52.9
Approach		32	4.4	34	4.4	0.019	5.6	NA	0.0	0.0	0.00	0.58	0.00	53.1
West: Shaw Street														
10	L2	2	50.0	2	50.0	0.003	6.3	LOS A	0.0	0.1	0.13	0.52	0.13	51.7
11	T1	1	0.0	1	0.0	0.003	4.4	LOS A	0.0	0.1	0.13	0.52	0.13	53.6
Approach		3	33.3	3	33.3	0.003	5.7	LOS A	0.0	0.1	0.13	0.52	0.13	52.3
All Vehicles		77	9.2	81	9.2	0.026	5.6	NA	0.1	0.9	0.01	0.59	0.01	52.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Punchbowl Road and Shaw Street 2025 PM Operation (Site Folder: Punchbowl Road and Shaw Street)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
East: Punchbowl Road														
5	T1	1	0.0	1	0.0	0.021	0.0	LOS A	0.1	0.7	0.04	0.59	0.04	54.6
6	R2	34	7.6	36	7.6	0.021	5.8	LOS A	0.1	0.7	0.04	0.59	0.04	52.1
Approach		35	7.4	37	7.4	0.021	5.6	NA	0.1	0.7	0.04	0.59	0.04	52.2
North: Punchbowl Road														
7	L2	31	7.6	33	7.6	0.024	5.6	LOS A	0.0	0.3	0.01	0.58	0.01	52.9
9	R2	7	14.0	7	14.0	0.024	5.9	LOS A	0.0	0.3	0.01	0.58	0.01	52.2
Approach		38	8.8	40	8.8	0.024	5.7	NA	0.0	0.3	0.01	0.58	0.01	52.8
West: Shaw Street														
10	L2	1	0.0	1	0.0	0.002	5.6	LOS A	0.0	0.0	0.12	0.52	0.12	53.8
11	T1	1	0.0	1	0.0	0.002	4.4	LOS A	0.0	0.0	0.12	0.52	0.12	53.7
Approach		2	0.0	2	0.0	0.002	5.0	LOS A	0.0	0.0	0.12	0.52	0.12	53.8
All Vehicles		75	7.9	79	7.9	0.024	5.6	NA	0.1	0.7	0.03	0.59	0.03	52.5

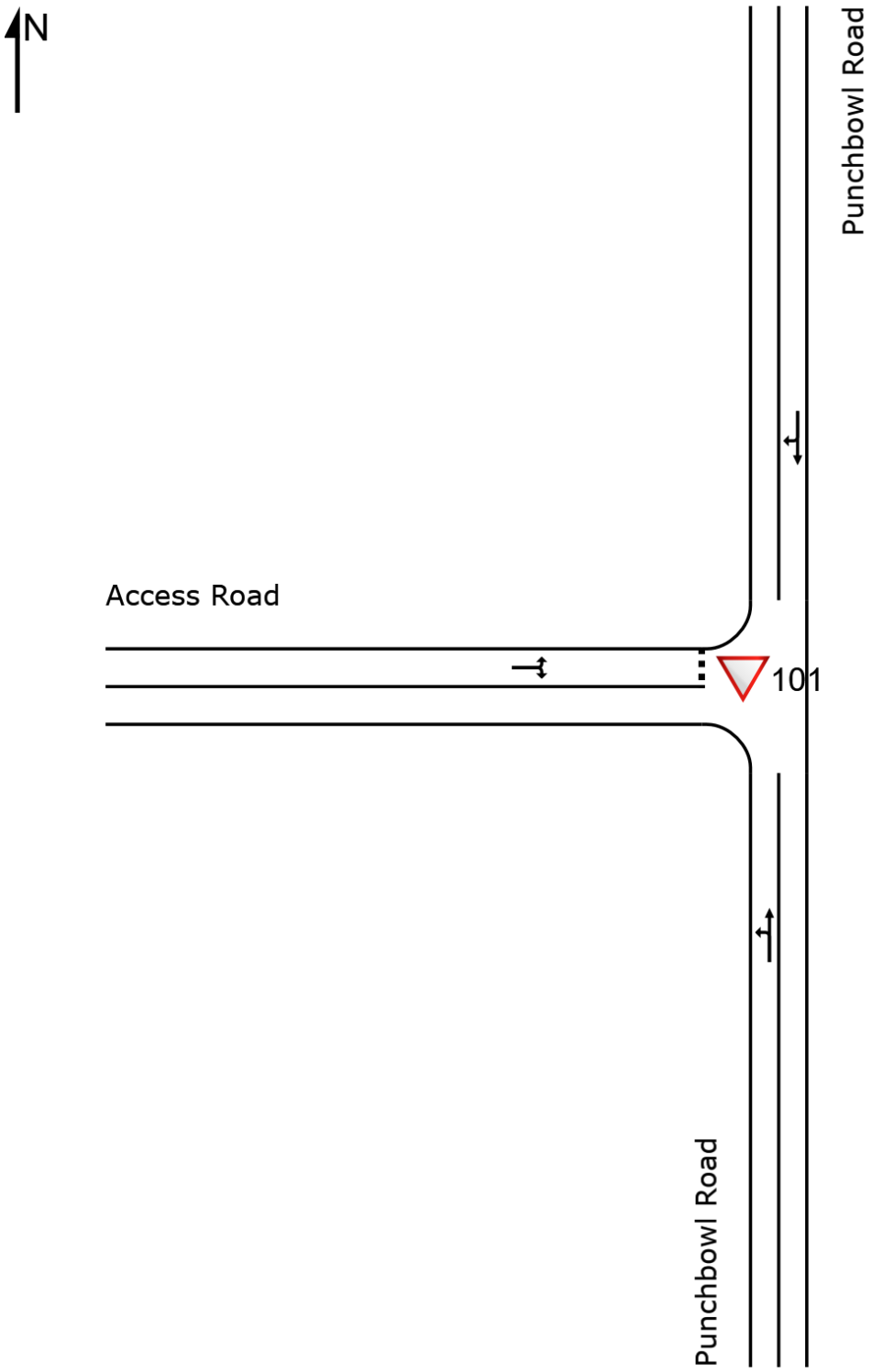
Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

SITE LAYOUT

Site: 101 [Punchbowl Road and Access Road 2023 AM (Site Folder: Punchbowl Road and Access Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 101 [Punchbowl Road and Access Road 2023 AM (Site Folder: Punchbowl Road and Access Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Punchbowl Road														
1	L2	1	0.0	1	0.0	0.008	5.5	LOS A	0.0	0.0	0.00	0.05	0.00	57.7
2	T1	11	40.0	12	40.0	0.008	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.3
Approach		12	36.7	13	36.7	0.008	0.5	NA	0.0	0.0	0.00	0.05	0.00	59.1
North: Punchbowl Road														
8	T1	1	0.0	1	0.0	0.001	0.0	LOS A	0.0	0.0	0.05	0.30	0.05	57.2
9	R2	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.05	0.30	0.05	55.1
Approach		2	0.0	2	0.0	0.001	2.8	NA	0.0	0.0	0.05	0.30	0.05	56.1
West: Access Road														
10	L2	1	0.0	1	0.0	0.001	5.6	LOS A	0.0	0.0	0.06	0.57	0.06	53.5
12	R2	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.06	0.57	0.06	52.9
Approach		2	0.0	2	0.0	0.001	5.6	LOS A	0.0	0.0	0.06	0.57	0.06	53.2
All Vehicles		16	27.5	17	27.5	0.008	1.4	NA	0.0	0.0	0.01	0.15	0.01	57.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Punchbowl Road and Access Road 2023 PM (Site Folder: Punchbowl Road and Access Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Punchbowl Road														
1	L2	1	0.0	1	0.0	0.003	5.5	LOS A	0.0	0.0	0.00	0.12	0.00	57.3
2	T1	4	0.0	4	0.0	0.003	0.0	LOS A	0.0	0.0	0.00	0.12	0.00	58.9
Approach		5	0.0	5	0.0	0.003	1.1	NA	0.0	0.0	0.00	0.12	0.00	58.6
North: Punchbowl Road														
8	T1	7	14.0	7	14.0	0.005	0.0	LOS A	0.0	0.0	0.01	0.08	0.01	59.2
9	R2	1	0.0	1	0.0	0.005	5.5	LOS A	0.0	0.0	0.01	0.08	0.01	56.9
Approach		8	12.3	8	12.3	0.005	0.7	NA	0.0	0.0	0.01	0.08	0.01	58.9
West: Access Road														
10	L2	1	0.0	1	0.0	0.001	5.6	LOS A	0.0	0.0	0.03	0.58	0.03	53.5
12	R2	1	0.0	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.03	0.58	0.03	53.0
Approach		2	0.0	2	0.0	0.001	5.5	LOS A	0.0	0.0	0.03	0.58	0.03	53.3
All Vehicles		15	6.5	16	6.5	0.005	1.5	NA	0.0	0.0	0.01	0.16	0.01	58.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Punchbowl Road and Access Road 2025 AM Construction (Site Folder: Punchbowl Road and Access Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Punchbowl Road														
1	L2	50	2.0	53	2.0	0.038	5.6	LOS A	0.0	0.0	0.00	0.48	0.00	54.0
2	T1	11	40.0	12	40.0	0.038	0.0	LOS A	0.0	0.0	0.00	0.48	0.00	55.5
Approach		61	8.9	64	8.9	0.038	4.6	NA	0.0	0.0	0.00	0.48	0.00	54.3
North: Punchbowl Road														
8	T1	1	0.0	1	0.0	0.001	0.1	LOS A	0.0	0.0	0.13	0.28	0.13	56.9
9	R2	1	0.0	1	0.0	0.001	5.6	LOS A	0.0	0.0	0.13	0.28	0.13	54.8
Approach		2	0.0	2	0.0	0.001	2.9	NA	0.0	0.0	0.13	0.28	0.13	55.9
West: Access Road														
10	L2	1	0.0	1	0.0	0.043	5.6	LOS A	0.1	1.0	0.10	0.58	0.10	53.4
12	R2	50	2.0	53	2.0	0.043	5.6	LOS A	0.1	1.0	0.10	0.58	0.10	52.7
Approach		51	2.0	54	2.0	0.043	5.6	LOS A	0.1	1.0	0.10	0.58	0.10	52.7
All Vehicles		114	5.6	120	5.6	0.043	5.0	NA	0.1	1.0	0.05	0.52	0.05	53.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Punchbowl Road and Access Road 2025 PM Construction (Site Folder: Punchbowl Road and Access Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Punchbowl Road														
1	L2	50	2.0	53	2.0	0.032	5.6	LOS A	0.0	0.0	0.00	0.54	0.00	53.9
2	T1	4	0.0	4	0.0	0.032	0.0	LOS A	0.0	0.0	0.00	0.54	0.00	55.3
Approach		54	1.9	57	1.9	0.032	5.2	NA	0.0	0.0	0.00	0.54	0.00	54.0
North: Punchbowl Road														
8	T1	7	14.0	7	14.0	0.005	0.0	LOS A	0.0	0.0	0.04	0.08	0.04	59.1
9	R2	1	0.0	1	0.0	0.005	5.6	LOS A	0.0	0.0	0.04	0.08	0.04	56.8
Approach		8	12.3	8	12.3	0.005	0.7	NA	0.0	0.0	0.04	0.08	0.04	58.8
West: Access Road														
10	L2	1	0.0	1	0.0	0.043	5.6	LOS A	0.1	1.0	0.09	0.58	0.09	53.4
12	R2	50	2.0	53	2.0	0.043	5.6	LOS A	0.1	1.0	0.09	0.58	0.09	52.7
Approach		51	2.0	54	2.0	0.043	5.6	LOS A	0.1	1.0	0.09	0.58	0.09	52.7
All Vehicles		113	2.6	119	2.6	0.043	5.1	NA	0.1	1.0	0.04	0.52	0.04	53.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Punchbowl Road and Access Road 2025 AM Operation (Site Folder: Punchbowl Road and Access Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Punchbowl Road														
1	L2	31	3.2	33	3.2	0.026	5.6	LOS A	0.0	0.0	0.00	0.43	0.00	54.3
2	T1	11	40.0	12	40.0	0.026	0.0	LOS A	0.0	0.0	0.00	0.43	0.00	55.8
Approach		42	12.9	44	12.9	0.026	4.1	NA	0.0	0.0	0.00	0.43	0.00	54.7
North: Punchbowl Road														
8	T1	1	0.0	1	0.0	0.001	0.1	LOS A	0.0	0.0	0.11	0.29	0.11	57.0
9	R2	1	0.0	1	0.0	0.001	5.6	LOS A	0.0	0.0	0.11	0.29	0.11	54.9
Approach		2	0.0	2	0.0	0.001	2.8	NA	0.0	0.0	0.11	0.29	0.11	55.9
West: Access Road														
10	L2	1	0.0	1	0.0	0.027	5.6	LOS A	0.1	0.6	0.09	0.58	0.09	53.4
12	R2	31	3.2	33	3.2	0.027	5.6	LOS A	0.1	0.6	0.09	0.58	0.09	52.7
Approach		32	3.1	34	3.1	0.027	5.6	LOS A	0.1	0.6	0.09	0.58	0.09	52.7
All Vehicles		76	8.4	80	8.4	0.027	4.7	NA	0.1	0.6	0.04	0.49	0.04	53.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Punchbowl Road and Access Road 2025 PM Operation (Site Folder: Punchbowl Road and Access Road)]

New Site
Site Category: (None)
Give-Way (Two-Way)

Vehicle Movement Performance

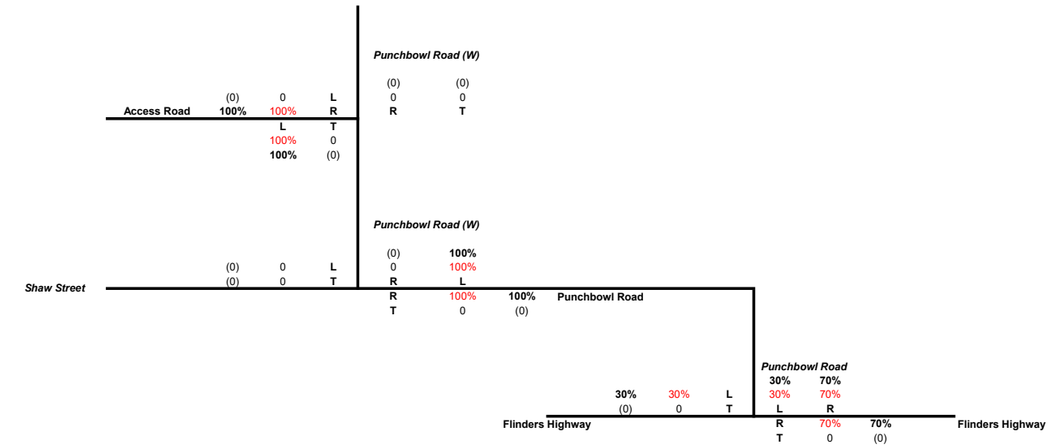
Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Punchbowl Road														
1	L2	31	3.2	33	3.2	0.021	5.6	LOS A	0.0	0.0	0.00	0.51	0.00	54.0
2	T1	4	0.0	4	0.0	0.021	0.0	LOS A	0.0	0.0	0.00	0.51	0.00	55.5
Approach		35	2.9	37	2.9	0.021	4.9	NA	0.0	0.0	0.00	0.51	0.00	54.2
North: Punchbowl Road														
8	T1	7	14.0	7	14.0	0.005	0.0	LOS A	0.0	0.0	0.03	0.08	0.03	59.1
9	R2	1	0.0	1	0.0	0.005	5.6	LOS A	0.0	0.0	0.03	0.08	0.03	56.8
Approach		8	12.3	8	12.3	0.005	0.7	NA	0.0	0.0	0.03	0.08	0.03	58.8
West: Access Road														
10	L2	1	0.0	1	0.0	0.027	5.6	LOS A	0.1	0.6	0.07	0.58	0.07	53.4
12	R2	31	3.2	33	3.2	0.027	5.6	LOS A	0.1	0.6	0.07	0.58	0.07	52.7
Approach		32	3.1	34	3.1	0.027	5.6	LOS A	0.1	0.6	0.07	0.58	0.07	52.7
All Vehicles		75	4.0	79	4.0	0.027	4.8	NA	0.1	0.6	0.03	0.50	0.03	54.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Appendix D – Traffic Flow Diagram

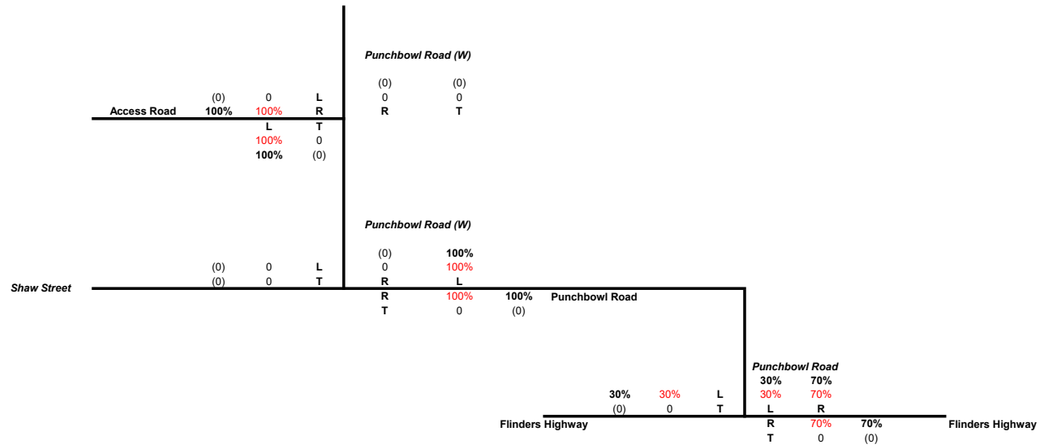
Construction

Total Traffic Distribution

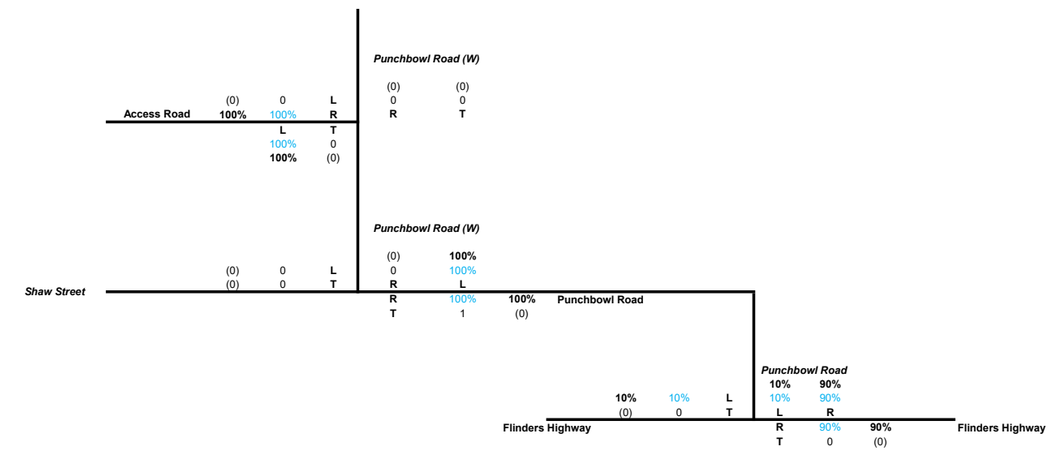


Operation

Total Traffic Distribution



Heavy Vehicles Distribution



Heavy Vehicles Distribution